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ABSTRACT

This document reports the develcpmental phase for the overall plan for developing and field testing a computerized information system which was designed to convert the manual collection and tabulation of data gathered from vocational programs throughout the State to a mcre efficient automated system. (The actual field test is reported in ancther document.) The introduction states the problem and presents the primary goals and objectives of the project. The methodology used in the assessment phase is then described and followed by a discussion of the priority determinations needed to guide the study activities. Also included are descriptions of the instrumentation, the computer program, and the staff and local inservice programs designed to develop awareness of computer services and information management. Finally the results of the project (development of a student data file and a teacher data file) are presented. A large appendix accompanies the document and includes references and numerous related schedules, forms, charts, and lists. A copy of the instructional manual for teacher/student data collection is also included. (BM)

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FINAL REPORT

Project No. V0187VZ
Grant No. OEG-0-74-1673

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THE NEBRASKA VOCATIONAL INFORMATION SYSTEM

June, 1977

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ABSTRACT

The Nebraska Department of Education, Division of Vocational Education has as its goal the computerization of information required for program administration and management. This effort required the coordination and cooperation of information needed from local schools with information required for reporting to state and federal authorities. As a part of the Nebraska Department of Education the Division of Vocational Education was directed to merge its information collection activities with existing collection systems wherever possible. The conversion of a manual collection and tabulation system within the Division of Vocational Education, to a computerized system became a concern of this project in order to introduce the concept of a "student base information system."

The primary purposes were:

1. To develop an information system for the Division of Vocational Education that would become an integral part of a Department wide system.

2. To incorporate the information system into the administrative functions of the Division of Vocational Education.

3. To provide comparisons of manual data collection and reporting costs with the automated collection and reporting costs.

The primary data files developed include:

1. A student data file including student social security number, sex, age, race, grade, program area, youth clubs, class duration, disadvantaged/handicapped or regular, school system identification number, teacher social security number, and completion or termination.

2. A teacher data file including social security number, age, sex, race, school identification number, program areas and duration of class assignment.

By using the U.S. Office of Education program taxonimies as prescribed in "Handbook VI" cross referencing of the data base with school identification, teacher identification and student identification can provide a multitude of formats for information reports.

This project completed the developmental phase of the overall plan for developing and field testing an information system. The field test was completed under another funding period and is not reported in this document.

FINAL REPORT

Project No. V0187VZ
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THE NEBRASKA VOCATIONAL INFORMATION SYSTEM

Research Project in Vocational Education
Conducted Under
Part C of Public Law 90-576

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LIST OF ABBREVIATIONS AND SYMBOLS

NDE--Nebraska Department of Education.

DVE--Division of Vocational Education, a part of Nebraska Department of Education.

NVIS--Nebraska Vocational Information System, refers to the title and activities of the project reported in the document.

MISC--Management Information System Committee, assigned by the Nebraska Commissioner of Education to review information management for the Nebraska Department of Education.

Planning Committee--included members of the MIS Committee, consultants from IBM and the Department of Administrative Services.

Data Element--the smallest information unit required prior to aggregation of statewide reports regarding educational programs, i.e. student name, identification member, class code etc.

LEA--refers to Local Education Agency a single school system under a local board.

INTRODUCTION

I. PROBLEM

A pressing problem confronting state level vocational education administrators is the collection, storing and retrieval of accurate data regarding vocational programs. The Nebraska Department of Education, Division of Vocational Education requires unique information from local education agencies, which it has collected and tabulated on a manual basis. Information collected by divisions of the State Department of Education were not routinely coordinated for use across the Department. The existing method of collecting vocational program data, from local schools, needed to be computerized and coordinated with a system wide plan for the Department of Education.

The need to consolidate activities and instrumentation regarding data gathering within the entire Nebraska Department of Education had been recognized by the Department. The Division of Vocational Education, within the Nebraska Department of Education, did not have adequate staff, expertise, or funds to develop the components of an information system for vocational education that would be compatible with a Department wide system.

II. GOALS AND OBJECTIVES

The primary purposes of this project were as follows:

1. To provide the financial resources to develop an information system for the Division of Vocational Education which would become an integral part of the data gathering activities of the Nebraska Department of Education.

2. To develop a model to be used by Vocational Education administrators for incorporating the data system into the administrative function.

3. To compare present manual data gathering and reporting costs with proposed automated data gathering and reporting costs.

The principal objectives of the project were as follows:

1. To collect and store data relevant to vocational education programs in Nebraska;

2. To collect information regarding costs of current data gathering and reporting efforts of the Division of Vocational Education for comparison to similar costs after implementation of the proposed system;

3. To maintain flexibility within the system by gathering and storing data by the smallest reporting units;

4. To provide data tabulations to the Division of Vocational Education personnel for use in vocational program reporting;

5. To provide data tabulations to the Division of Vocational Education personnel for use in administrative decision making;

6. To disseminate to local educational agencies standard vocational information as determined by State vocational staff and requested by local education agencies; and

7. To inservice the staff of the Division of Vocational Education in using data gathered from the information system so that it may be incorporated into the administrative function of the Division.

The subordinate objectives of the project were as follows:

1. To provide data when needed in usable form;

2. To provide data compiled from elements of vocational program information; and

3. To develop a combination training and implementation program, for use of the data system, in vocational education administration.

The following data elements were part of the original proposal included for purposes of identifying the type of information to be considered for the Nebraska Vocational Information System (NVIS).

1. Student Elements

   a. Identification number

   b. Grade level

   c. Classification (handicapped, disadvantaged, adult, etc.)

   d. Sex (male, female)

   e. Race

   f. Total class assignment by code

2. Teacher Elements

   a. Identification number

   b. Assignment

   c. Salary

   d. Qualifications

   e. Months of employment

3. Program Elements

   a. Identification number

   b. Grade level

   c. Classification

   d. Program Duration

4. School Elements

   a. Identification number

   b. Grade span

   c. Accreditation

   d. Contract application and claim

   e. Local plan

   f. Student follow-up

5. Cost Elements

   a. Program salaries

   b. Program space

   c. Program equipment

   d. Program materials

   e. Program indirect cost

   f. Program travel

METHODOLOGY

I. ASSESSMENT PHASE

A comprehensive review of operational systems using data collection forms suitable for computerization was undertaken at the beginning of the project. Also included as a major project activity was the review of data collection and reporting procedures of the Division of Vocational Education. These two activities became the base from which the project personnel achieved an awareness of possible instrumentation designs and the scope of the information required of the Vocational Division for daily operation. A list of key resource documents and reports valuable to the assessment phase is included in (Appendix A).

Collection of data gathering instruments used by the Division of Vocational Education involved two operational activities. The first activity was a personal visit to each section of the Division of Vocational

Education. The visit included the following steps: 1) Review of the NVIS project objectives with the section leader and/or staff, 2) Request that copies of all instruments used to collect data from local schools be supplied to the project staff, 3) Establishing a time schedule for a return visit to review and collect instruments.

The sections visited and number of data collection instruments obtained is shown in Table 1.

Table 1

Sections of the Division of Vocational Education and total data forms used

Section	No. of Forms
Agriculture & Natural Resources Development, Diversified Occupations	24
Distributive Education	16
Consumer & Homemaking, HE Related Occupations	30
Trade & Industries, Health Occupations, Industrial Arts, Technical	16
Office Occupations	16
Work Study, Exemplary, Research, Vocational Guidance, Career Education Vocational Curriculum Center	17
Cooperative Occupations (Part G)	15
Vocational Professional Personnel Development & Teacher Training	9
Special Vocational Needs (Disadvantaged & Handicapped)	10
Private Vocational Schools & Veterans Education	31
Manpower Training & Related Services	11
Federal Reports, State Reports & Records	25
Total forms used	221
Total forms unduplicated	124

Subsequent analysis of all the instruments used by the Division of Vocational Education identified 124 major instruments used in collecting local school data. These forms became the primary source of review to determine the type of data elements currently being collected at the Vocational Division level.

During the activities described previously, a second step involved the collection of all instruments used for reporting to state and federal agencies. Analysis and review of all forms collected, revealed that data elements, based upon current manual collection and reporting procedures, were in line with the elements suggested by the NVIS project proposal.

An important activity during the assessment phase was the consideration of an advisory committee for the project. A preliminary survey of the Vocational Division staff revealed very little experience among staff in dealing with computers. Basic awareness of computers was desireable for potential advisory committee membership due to the nature of the project. In lieu of a formal advisory committee to the project, a special task force designated by the Commissioner with Department wide responsibilities was used. This task force was representative of every Division of the Nebraska Department of Education and was directed by the Commissioner of Education to identify the overall needs and requirements for "information Management" in the Department. This task force became identified as the "Management Information System Committee" and provided both advice to the (NVIS) project and a means of coordination with the Department wide activities relative to data management (Appendix B).

II. PRIORITY DETERMINATION

The priority determination phase of the Nebraska Vocational Information System was performed through the activities of the Nebraska Department of Education "Management Information System Committee." This MIS Committee developed the following objectives to guide its study activity:

1. To identify the long range information needs of the Department;
2. To review the level of information support now available to decision makers;
3. To create a plan for the development of an effective management information system;
4. To identify a logical network of systems and associated data bases;
5. To identify one area of the management information system which warrants first priority for development.

The planning procedure used in fulfilling the above objectives involved an extensive review of the entire Nebraska Department of Education. The personnel requirements and planning schedule consumed some 1600 man hours of group activity following a procedure presented by "IBM" Corporation representatives. The process recommended the following staff assignments:

Project Leader (Director of Planning and Evaluation)	- A high level person that understands the Nebraska Department of Education and can open doors throughout the organization.

Executive Sponsor (Commissioner) - Top level person to come in early and kick off activity of the task force and add creditability to the study.

Data Processing Person (Administrator of Information Management) - Nebraska Department of Education.

Division Representative (Four Representatives) - One member from each Division.

Consultants (Two Representatives) - IBM Marketing and Systems Planning.

The study process involved the following activities and accomplished over a six week period:

1. Briefing of study committee regarding procedures and responsibilities.

2. Review of the entire Nebraska Department of Education regarding its functions and responsibilities.

3. Interviewing of management levels, State Board representative, Legislative analysts, Department of Administrative Services analysts, and local education agency representatives.

4. Data synthesis and review-interview analysis.

5. Establishing data base definitions.

6. Establishing system network definitions.

7. Establishing system priorities.

8. Preparation of report document and recommendations.

9. Report presentations.

The diagram illustrated in Figure 1, represents the management levels of the Nebraska Department of Education and the planning involved at the various management levels. The area of concentration for the study committee interviews involved a top level board member, the Commissioner of Education, all assistant commissioners and key administrators of special sections.

A series of matrix charts were used in determining the data elements necessary for supporting management decisions of the Nebraska Department of Education. The illustration in Figure 2 presents the data elements in relation to the data base management structure. The data base elements are divided into two major sections. A section labeled "SEA" indicates the data base elements that were determined necessary to the internal management of the Nebraska Department of Education. Those data base elements designated in the "LEA" section were determined necessary for the management of programs at the local education agency level.

As a result of the study committee activity and reports, the State Board of Education adopted a set of recommendations for the Department at its April 1975 meeting. The recommendations are as follows:

1. Develop a logical information system network to eliminate duplication of information collection and provide a broad base for educational decision making.

2. Develop staff training in basic computer concepts to aid planning and use of the information system.

3. Conduct a utilization study to determine the size of the effort required to build the logical information system and to select possible equipment combinations necessary for the management information system.

4. Continue support for information systems planning to insure the information system remains consistent with the changing needs of the Department.

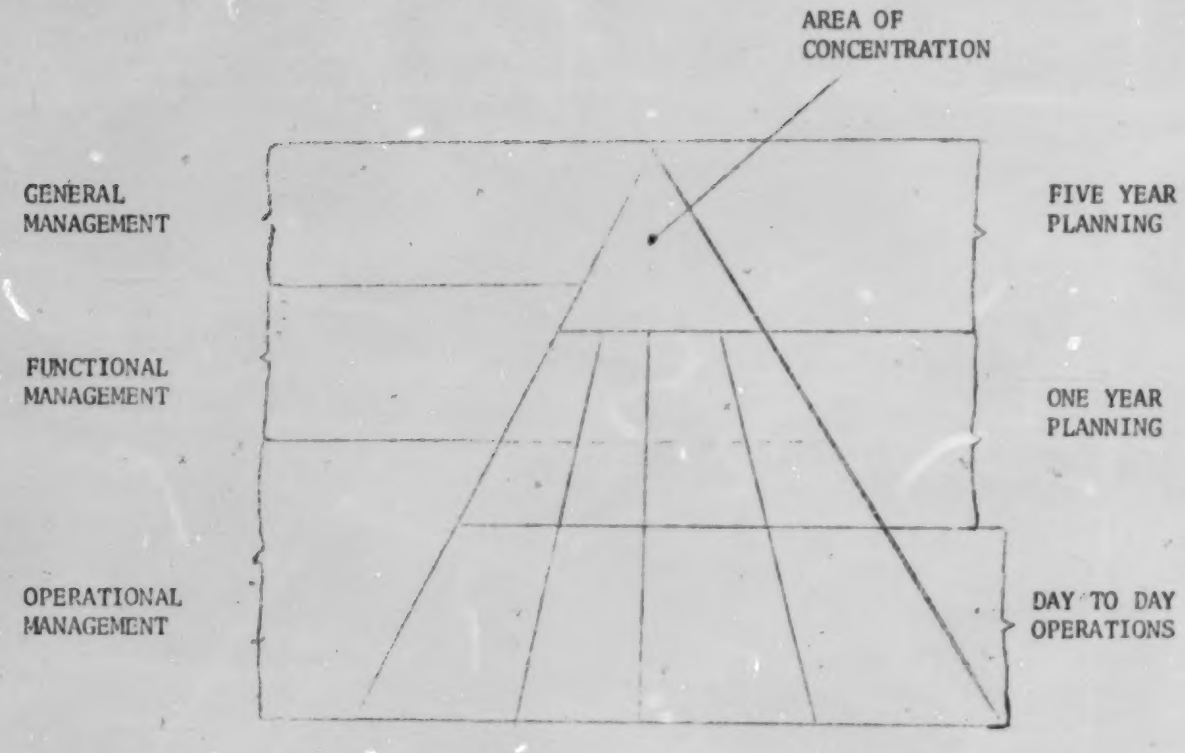
5. Priority systems for development: 1) A Departmental Financial Management System, 2) A Local Education Agency Accounting System, and a School Personnel System.

Based upon the data elements identified by the MIS Committee, of which the NVIS Project Director was a member, a review of data collection instruments was undertaken. Two instrument designs were selected for consideration as part of the Nebraska Vocational Information System. The first preference in instrument design which labeled "Sample A" was a mark sense card requiring optical scanning capability for processing data. The "Sample A" card (Appendix E, p. 1 & 2) was designed to be filled out by individual students in each vocational class. A corresponding header card was to be filled out by each class teacher.

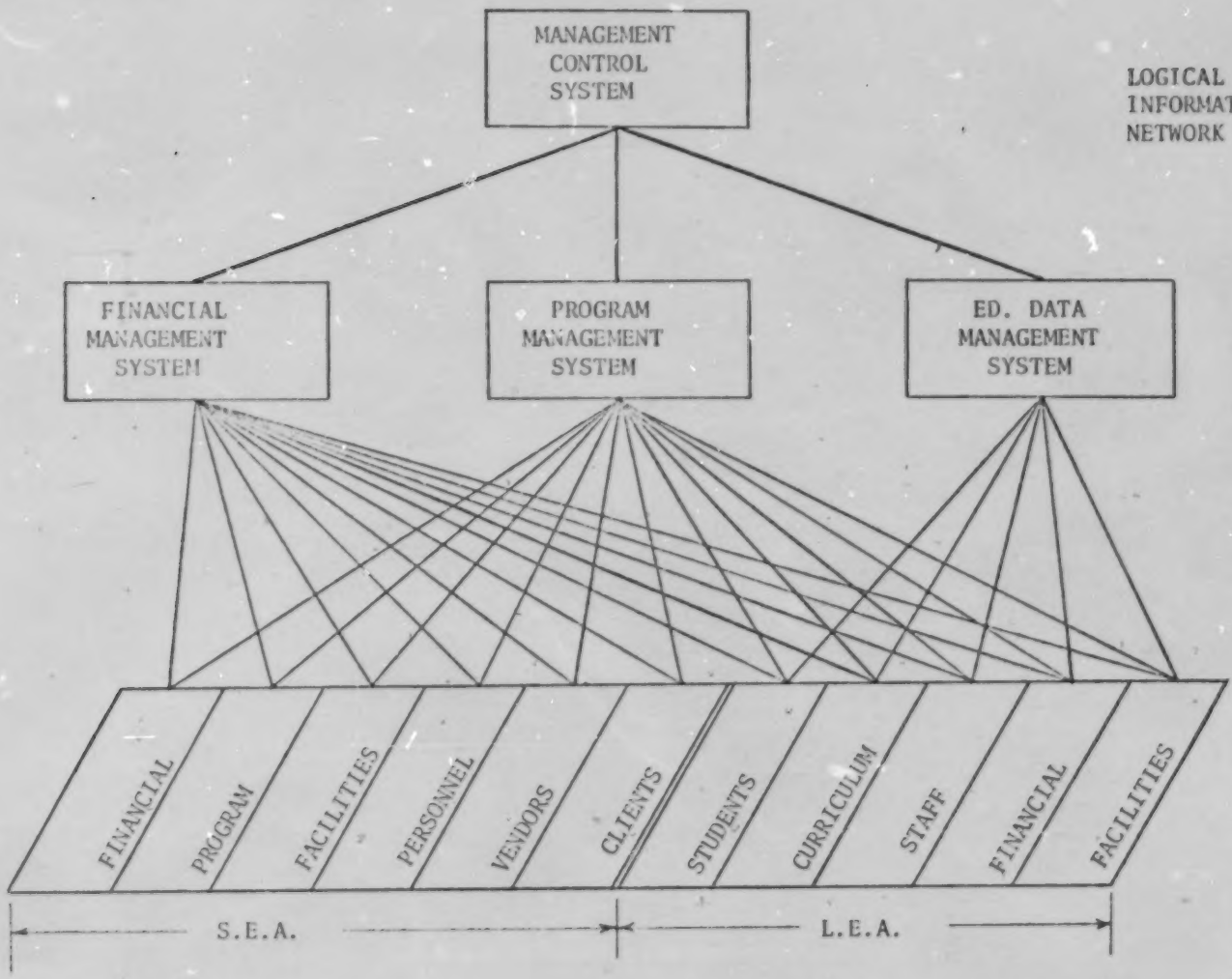
A second preference in instrument design was "Sample B", which was selected for "key punch" processing of data. Sample B, (Appendix C) was designed to be filled out by classroom teachers for each class but would collect the same informationas the Sample A cards.

FIGURE 1

Management levels and their relationship to planning. The Nebraska Department of Education planning activity concentrated at the upper level, involving the State Board, Commissioner, Assistant Commissioners and key level administrators.



INFORMATION SYSTEM OUTLINE



LOGICAL INFORMATION NETWORK

LOGICAL DATA BASE

FIGURE 2

MIS STUDY
MARCH 1975

The instruments selected would in each case be capable of providing the following information:

Student data elements

1. Identification number
2. Grade level
3. Disadvantaged and handicapped data
4. Sex
5. Race
6. Class assignment
7. Completion data
8. Follow-up identification

Teacher data elements

1. Identification number
2. Program assignments
3. School identification

During the original proposal development, cost elements had been considered for the Nebraska Vocational Information System. However, during the period of waiting for proposal approval, a special project for fiscal accounting in local schools was implemented using Handbook II for local school cost accounting. With the development of this project the NVIS project staff selected not to duplicate efforts in cost accounting. The Nebraska Department of Education MIS Committee will be responsible for merging the vocational student and program accounting system with the cost accounting system for local schools.

In reviewing data elements for the NDE management information system with representatives of other state agencies, very little evidence surfaced that similar data was being collected by other agencies. The Nebraska State Board of Vocational Education is the sole agency responsible for vocational education and remains the primary collector and user of information regarding vocational programs.

III. DESIGN OF INSTUMENTS

Several steps took place during the development and adaptation of instruments for the Nebraska Vocational Information System. The first step was the design of rough draft instruments using the required data elements as a guide to the overall design and inclusion of space assignment. Numerous meetings with computer personnel of the Nebraska Department of Education were held in order to analyze the best methods of information coding, collection and retrieval for use in the Department. The development of a data base concept for storage of information led to the following outline:

School File by:

1. County identification number

2. District identification number

3. School building identification number

4. O.E. Program classification numbers (programs offered)

5. Teachers by Social Security number

Teacher File By:

1. County identification number

2. District identification number

3. School building identification number

4. Social security number

5. O.E. Program classification numbers (classes being taught)

6. Total teaching assignment by minutes

7. Total minutes reimburseable courses

8. Total minutes by other courses taught

9. Total minutes for teacher preparation

10. Total minutes for open laboratory

11. Total number of minutes per mod/period

Student File By:

1. County identification number

2. District identification number

3. School building identification number

4. Teacher social security number

5. Student identification number and grade

6. O.E. program identification number

7. Sex

8. Age

9. Race

10. Program status-coop, work study, disadvantaged & handicapped

11. Completion status

12. Placement status

13. Follow-up status 1 year, 5 year

The second step of instrument development and adaptation began with a series of meetings held with various section leaders of the Nebraska Department of Education. The purpose of these meetings were to identify data collection efforts that resembled or duplicated the base data required by the NVIS project. Several areas requiring coordination were identified during step two activities. Personnel assigned in the Planning, Evaluation and Research Section were designated as liaison personnel for coordination of data collection efforts within the Department. All data collection forms, including those previously used in the Division of Vocational Education by the NVIS project, were cataloged and assigned a Department number.

A third step in instrument development and adaptation was the review of instruments with representatives from local education agencies. Contacts with vocational education teachers and administrators were made by personal interview in schools offering extensive vocational programs. Superintendents of schools were presented with an overview of the NVIS project and instruments during school administration workshops held at the University of Nebraska.

The fourth and final step in instrument development and adaptation involved the revision of forms for use in Nebraska and the development of definitions, instructions and policies regarding information management.

IV. DESIGN OF COMPUTER PROGRAM

During the assessment and priority activities of the project continuous communication with the computer personnel of the Nebraska Department of Education had been maintained. This effort was determined necessary to the eventual successful installation of the vocational information elements into the Department system. Early in the project, limitations to the Department of Education's computer capability surfaced during review of a student based information concept. Division III (Vocational Education) of the Department appeared to be unique in its request for specific information regarding students by vocational instructional program. The existing computer capability was "batch" oriented and was not conducive to maintaining "current" student records while retaining file maintenance and update capability within the Department of Education. During the review process, the student registration procedure used by Maryland, had appeared very similar to the elements and requirements desired by Nebraska. Contact with the Maryland Department of Education revealed their willingness to share their instruments and computer programs, if it was possible to locate a Hewlett Packard computer in Nebraska. An alternative would have required shipment of student cards to Maryland for processing. This alternative was determined undesireable due to distance and availability for State Department use in Management modeling. Since a Hewlett Packard 3000 was in use at Educational Service Unit #3, at Omaha, a contract for computer service and technical assistance was designed to allow a pilot of Maryland's student and teacher registration cards.

While plans for piloting the Maryland system were being developed the Management Information System Committee continued to review Department policy

and information management, with the elimination of duplicating information collection as a prime objective. Project staff and the Department's computer staff began extensive review of information collection and ways of consolidating existing information requests to local schools. As information requests were consolidated existing computer programs were modified or new programs developed. A major accomplishment of the Department was the adoption of a common taxonomy for curriculum and personnel designation in local schools. Routine superintendents reports would now include USOE code numbers as designated by "Handbook VI." [1] This effort would allow vocational administrators to collect vocational personnel and curriculum assignments without special collection efforts by the Division. The Vocational Division has traditionally collected and maintained its information and reporting activities on a manual basis independent of the rest of the Department of Education. This condition had prompted the exclusion of vocational education from any computerized systems developed prior to this project. A major task of project personnel was the merging of vocational information requirements with existing computerized activities where possible. The consideration of complete new computer systems for vocational education was a second concern of the project.

V. DESIGN OF STAFF INSERVICE

A questionnaire submitted to the Division of Vocational Education staff early in the project identified a lack of knowledge about the concepts of computerization, terminology and general management of information systems. A schedule of events directed at developing and improving staff awareness of computer services and information management is listed below.

Staff inservice activity

A. Orientation to the objectives of the Nebraska Vocational Information System (NVIS)
   1. Initial project orientation at special staff meetings
   2. Project orientation at a Vocational Division staff retreat
   3. Project reports at regular staff meetings

B. Special staff inservice
   1. Demonstration of computer terminals (CRT)
   2. Workshop for State Department administrators and consultants (Appendix D)
   3. Staff retreat for Division III planning including information system
   4. Staff involvement with instrument design, selection of programing taxonomy and data element definitions

VI. DESIGN OF LOCAL SCHOOL INSERVICE

During the initial orientation presentations made by project staff to local school administrators several schools indicated a desire to participate in the project. Four of these schools were eventually selected as pilot sites

[1] U.S. Department of Health, Education and Welfare. Standard Terminology For Curriculum and Instruction In Local and State School Systems, State Educational Records and Report Series: Handbook VI, OE-23052, 1970

and to provide advice to project management. The inservice activities for local school personnel included the following:

A. Administration
   1. Orientation to project purposes and expectations of pilot school sites
   2. Orientation of local school coordinators
   3. Orientation of Vocational Division personnel and local school coordinator to the Maryland data management system (Appendix E)

B. Teacher
   1. Orientation to project purposes and pilot school obligation
   2. Instructions in filling out mark sense cards and identifying local program codes (Appendix E)

Numerous meetings were held with local school coordinators, guidance counselors and computer personnel in developing strategies for actual registration of students for a pilot of the system. It was determined that a pilot of the Maryland - "Technical Student Record" and "Teacher Record" card system should be conducted. The pilot would include schools representing a small, medium and large system in Nebraska. The pilot school would also have at least three discipline areas of vocational education. These criteria were recommended by the Division of Vocational Education staff and the Department of Education Research and Planning section. Final site selection was limited to eastern Nebraska in order to keep travel to a minimum.

RESULTS AND CONCLUSIONS

This particular project was not intended to be a basic research activity but was designed to assist the Nebraska Department of Education develop a management information system for vocational education. A condition of project operation was to attempt the merger of vocational information needs with existing activities of the Department wherever possible and feasible.

The results of the project at this phase are listed below.

A. Assessment
   1. Extensive collection and review of information systems in other states was conducted and continued to be of value throughout this period of the project.
   2. Collection and review of instruments used by the Division of Vocational Education focused attention upon the workload imposed upon the Division and local school officials. As a result the count of forms has been reduced from 124 to nineteen registered forms and approximately ten experimental forms.
   3. During the period of this project the Department has developed extensive procedures for data management and assigned personnel to positions of information management, data processing and forms control. This action was actively supported and recommended by project staff.
   4. The formation of a Department wide Management Information System (MIS) committee was a major breakthrough for this project and appointment of project staff to the MIS committee contributed greatly to establishing a working relationship between data processing personnel and vocational personnel.

5. An informal advisory relationship was established for this project through the comprehensive Department wide assessment conducted by staff from Department of Education, Department of Administrative Services, IBM Corporation, Legislative Fiscal Analysts, Local School Administrators and the Research Coordinating Unit.

B. Priorities

Selection of data elements and priorities for data elements to be tested in a pilot were determined during the assessment and review of instruments and the design of Department wide information management. It was determined that a field test of the Maryland student and teacher system would provide input to the special needs of vocational education while allowing financial data to be collected through the Superintendents annual reports and from internal records of the Division of Vocational Education. Data elements to be collected for the pilot study were as follows:

1. Student Data
   a. Student name and initials
   b. Student social security number or number assigned by district
   c. Student age
   d. Student grade
   e. Student sex - male, female
   f. Student race - American Indian, Black, Oriental, Spanish American, Other
   g. Student home zip code
   h. Student programs - two digit code (linked by computer to OE code six digit)
   i. Program minutes per period
   j. Program periods per week
   k. Month and year student entered program
   l. Cooperative program (two digit code)
   m. Vocational youth organization - DECA, FBLA, FFA FHA, VICA
   n. Local school system identification (six digit number)
   o. Teacher social security number or number assigned by district
   p. Student - handicapped, disadvantaged, unable to succeed or regular
   q. Date student exited program - month, day, year
   r. Placement - full time related, full time unrelated, continuing education, military, not available for placement, other
   s. Teacher evaluation

2. Teacher Data
   a. Teacher name and initials
   b. Social security number or number assigned by district
   c. Age
   d. School identification number (six digit)
   e. Sex (male, female)
   f. Race
   g. Program code (two digit linked by computer to OE code-six digit)

3. Local School Data
   a. School identification number (assigned by Department of Education)
   b. Two digit program codes cross referenced to six digit OE codes

Other information deemed necessary to complete the information required for Department use was identifiable within reports already existing within the Department system.

C. Design

The design of instruments and computer programming was alleviated by the decision to pilot the Maryland system. However, it was necessary to begin extensive review of instrumentation used by other Divisions of the Department and to negotiate changes where Department wide benefit would result. This activity was carried out by the Supervisor of Computer Services, Forms Control Officer and Director of Planning in consultation with project staff. The Maryland system is a student based data collection design and allows basic student information to be indexed to provide teacher files, curriculum listings etc. by class, schools, county, region or state. Nebraska had never collected individual student records and therefore did not have individual student record capability within existing systems. The pilot of Maryland's design would allow demonstration of compiling reports from individual student records as opposed to compiling reports from local administrator reports.

The student based design was intended to provide basic data for reference as necessary to meet the " unanticipated" information requests of administrations, legislation, state and federal reports. The "fixed" format of local school reports did not allow for the "unanticipated" request and required additional collection efforts by the Department.

D. Schools Selected for Anticipated Field Test

Selection of field test schools for collection of individual student enrollment and completion information was determined by the following criteria:

1. Indication of interest from local schools
2. Within one half day drive from Lincoln
3. Operated at least three vocational programs
4. Represented a small, medium, and large school system in Nebraska.

The schools selected were:		Total Enrollment
Small schools	- Lyons High School, Lyons, NE	199 students
	- Valley High School, Valley, NE	405 students
Medium school	- Columbus High School, Columbus, NE	1,650 students
Large school	- Lincoln Public Schools, Lincoln, NE	13,491 students

E. Summary

During funding negotiations with the U.S. Office of Education, this project was assigned approximately one half the original budget requested. This caused a major disruption of the original proposal design and schedule of activities. However, it was determined that activities in preparation for a pilot test of an information system could be accomplished. Therefore, negotiations with the U.S. Office of Education took place allowing the project to complete only the developmental activities of the proposal. The actual field test or "pilot" of a system was not included in the funding period of this project. A second proposal was designed to request additional funding for the actual field test of the system designed under the first funding period.

APPENDIX A
RESOURCE DOCUMENTS

Maryland State Department of Education, Maryland Administrative Information Management System (AIMS). Division of Research, Evaluation, and Information Systems and Division of Vocational Technical Education, 1975.

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APPENDIX B

INFORMATION STUDY COMMITTEE

February 18, 1975

OBJECTIVES

1. Identify information needs of the State Department of Education in terms of structure, timeliness, and integrity.
2. Review the present level of information support provided for decision makers.
3. Develop an information system plan to support department management.

SCOPE OF THE STUDY

1. Will include all four divisions of the State Department of Education
2. Will involve one Nebraska School District
3. Will involve the Commissioner and one member of the State Board of Education
4. Will include one member of the Department of Administrative Services

LEVEL OF THE STUDY

1. Overview of the total Department
2. Overview of each Division
3. General knowledge of Sections/Programs

OUTPUT

1. Findings
2. Conclusions
3. Process view of the State Department of Education
4. Definition of network of logical information system
5. Recommendations
6. Starting point
7. I/S Management (Hardware, Software and Staff)

RESPONSIBILITIES OF THE SDE MIS COMMITTEE

1. Create and maintain a specific listing of the information needs of the SDE (including new information requests).

2. Review and evaluate each listed information need to be certain that it is realistic, and justifiable.

3. Identify each piece of information currently collected as:
   a. Efficiently collected and necessary;
   b. Collected, but unnecessary.
   c. Collected inefficiently but necessary (i.e. duplicate or multiple or multiple collection of same information).

4. Review the listed information needs to identify those which are not currently met.

5. Review all forms used for information collection to insure that they are designed as clearly and simply as possible.

6. Analyze current data collection and processing procedures to insure they are operated at minimum cost.

7. Develop recommendations on staff, equipment and procedures for information processing.

8. Assemble and disseminate to schools, state agencies, and the NDE staff, descriptions of the information available through the State Department of Education.

9. Review and make recommendations on all "one time" data collection requests from sources within or out of the SDE (i.e. research projects, investigations, etc.)

10. Establish guidelines for the collection and processing of information which is considered to be confidential.

11. Identify information from other sources which may be of use to educational decision makers.

12. Suggest priorities of programming and computer printouts, etc. to cabinet.

13. Approve any program or system modifications which will cause other developments to be slowed or modified, or will utilize data from other systems. Any decisions on data collection or processing procedures or administrative policy applications may be appealed to the Commissioner, if staff member wishes.

GOALS FOR THE STATE DEPARTMENT OF EDUCATION INFORMATION SYSTEM (APPENDIX)

1. To improve the probability of making good decisions in matters related to education by providing accurate information to the people who need it when they need it in a form in which they can readily understand it.

2. To provide excellent information for the least possible cost.

3. To reduce to a minimum the amount of time required of local schools and other agencies in reporting information.

4. To maximize the flow and common use of information between the various divisions and sections of the State Department of Education.

5. To assist and cooperate with other agencies (state and local) to maximize the flow and common use of information between the various agencies of the State of Nebraska.

6. To continually analyze the operation of the information system to be certain that it changes to meet the needs of users, rather than becoming entrenched in its own mechanics.

ADMINSTRATIVE POLICIES AND REGULATIONS FOR THE SDE INFORMATION SYSTEM

1. All contacts with the DAS computing facility should be routed through the SDE Director of Data Processing.

2. All requests for information from local agencies which are to be administered or endorsed by the SDE should be submitted to the Chairman of the MIS Committee (using recommendations from staff) for review by the committee.

3. Report forms to be used by the SDE for data collection should be reviewed by the committee, or its designer, and must be approved by the MIS committee to reduce the risk of repetition or duplication.

4. Reports designed to disseminate data collected by the SDE should be reviewed by the committee or its designer to reduce the risk of repetition.

5. No data processing applications which require expenditures should be initiated unless they have been authorized in writing by the appropriate Assistant Commissioner.

6. In the event that conflicts arise in the scheduling or prioritization of data processing applications, the MIS committee shall establish a prioritized schedule for development.

NEBRASKA
DEPARTMENT OF EDUCATION
233 SOUTH 10th STREET LINCOLN, NEBRASKA 68508
TELEPHONE (402) 471-2295

M. Anne Campbell
Commissioner

February 26, 1976

MEMORANDUM

TO: Roy Equall, Jack Baillie, John Clark, Harley Pfeiffer, Hugh Harlan, Glen Shafer, Royal Henline, Larry Vontz, Bob Bligh, Elton Mendenhall, Dr. Ortgiesen

FROM: Planning, Evaluation and Research Bob Beecham

SUBJECT: Data Collection Planning Workshop

The Planning, Research and Evaluation Section is presently redesigning some of the data collection operations of the NDE. The project goal is to create an efficient system for collecting information on students, programs, and teachers. Official forms are the primary medium used by NDE staff for collecting data to be used for dissemination and reporting. It is necessary to review the rational for each form to determine if redundant or needless information is being collected. To accomplish this, a meeting of primary NDE data collectors and users will be held at 9:00 A.M. on March 8th in Conference Room B, and continue on March 9th if necessary. At that time those present will be asked to review and evaluate each form they are responsible for, or are a primary user of. The order of presentation will be:

(1)	Roy Equall	Vocational Education
(2)	Jack Baillie	Federal Programs
(3)	John Clark	Special Education
(4)	Harley Pfeiffer	Statistics
	Hugh Harlan	School Management
	Glen Shafer	Teacher Certification
	Royal Henline	Curriculum
(5)	Larry Vontz	Finance
(6)	Bob Bligh	Title IX
(7)	Elton Mendenhall	Vocational Education

STATE BOARD OF EDUCATION

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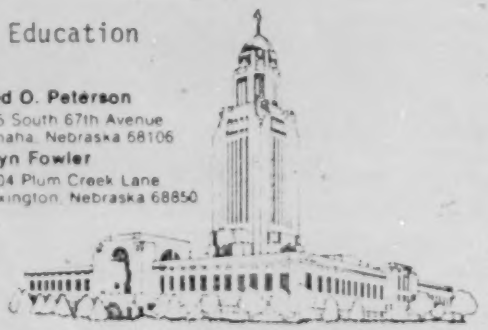

JOB DESCRIPTION	START DATE	END DATE
Pilot LEA Personnel/Curriculum System	December 1	May 13
Data Entry Conversion From Keypunch to Mohawk 2409	December 1	July 1
Run Fall Production (Form A) (Accreditation)	December 1	December 30
Develop SEA Inventory System	December 6	April 1
Develop an LEA Student Information System	December 6	July 1
Survey of Mohawk Users for New Software	January 3	February 11
Pilot VO-ED System (Md.)	January 3	April 1
Develop Annual Financial Summarization Report	December 13	January 7
Develop a Mailing Label System to be Run on the Mohawk	January 3	January 28
Develop a Revised School Lunch System	January 31	July 1
Develop a Computerized Core of Educational Data (CCED)	January 5	July 1
LEA Financial Information System	February 1	July 1
Develop an SEA Personnel System	April 4	June 30
Review Teacher Certification		

Nebraska Information System

REQUIREMENTS DEFINITIONS

Data Base:	The ability of the option to store large quantities of information and have that information constantly available for use.
System Response:	The ability of the option to minimize the time a user waits for a requested action to be completed.
Control:	The ability of the option to control the access and distribution of information.
New Program Development:	The ability of the option to allow rapid development of an information system.
I/S Maintenance:	The ability of the option to allow changes in the Information System data-handling routines.
Hardware Cost:	The ability of the option to allow a lower investment in computer costs.
Personnel Cost:	The ability of the option to allow lower personnel costs.
Training:	The ability of the system to allow a lower level of training for the technical staff.
Hardware Maintenance:	The ability of the option to allow a computer vendor to provide fast service.
Reliability:	The ability of the option to provide a continuously available information system.
System Availability:	The ability of the option to allow a user to make a request and receive a response.
System Maintenance:	The ability of the option to minimize the upkeep required to keep the system operating.

APPENDIX C

NEBRASKA STATE DEPARTMENT OF EDUCATION
Vocational Program Report

School Name _____ Address _____

Teacher Name _____ Social Security Number _____
(First) (M.I.) (Last)

Class Name _____ Class Duration _____ Class Level _____
(See Instruction Manual)

Teacher Schedule Total Minutes Per Week _____ Reimb. Voc. Classes _____ Other Classes _____ Minutes Assigned to Other Activities _____ Teacher Preparation _____ Open Labs _____ Number of Minutes Per Mod/Period _____

	1st Initial	2nd Initial	Last Name (Print or Type)	Student Number (See Instruction Manual)	Occupational Objective Code (O.E.)	Sex M/F	Age	Grade Level	Race	Disadv.	Handic.	Agriculture	Distr. Ed.	Office	Health	Home Ec.	Trds. & Ind.	Ind. Arts	Sp. Voc. Nds.	Divrs. Occ.	Placement	Coop	Hours Worked	Completion		
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APPENDIX D

INTRODUCTION

A major purpose of the workshop described within this report was to prepare State Department of Education personnel for the implementation of information management in the Department. The rationale of the workshop was that administrators need a basic understanding of computer terminology, techniques and capabilities in order to make decisions that allow computer support to information requirements. The workshop was not designed to provide skills in computer use, but to bring about an awareness of the types of personnel and hardware necessary to computer facilities and the processes involved in dealing with computer personnel when planning support systems to administrative activity.

This workshop was planned and conducted by personnel of:

State Department of Education
Nebraska Vocational Information System Project
Planning Evaluation and Research

University of Nebraska
Operating Systems Analyst
Education Extension Division

COMPUTERS FOR MANAGEMENT
WORKSHOP

I. Workshop Goals
   A. To provide staff with an introduction to the capacity/or of the computer as an aid in management.
      1. To provide staff with information necessary to recognize the functions of "computer software" and "computer personnel" in a data processing operation.
      2. To provide staff with the information necessary to recognize the various roles of data processing personnel.
      3. To provide staff with a working knowledge of computer terminology.
      4. To provide staff with information necessary to recognize the functions of computer "hardware".
   B. Develop confidence in the use of the computer as a management tool.
      1. To identify and discuss commonly misunderstood computer characteristics and capabilities.
      2. To identify methods of computer use in supporting educational management.
   C. To assist staff in developing skills necessary to define a computer application.
      1. Defining the problem.
      2. Meeting the computer analyst.
      3. Developing the flow chart.
      4. Developing specification for computer job.

II. Participant Expectations
   A. Each workshop participant will attend all workshop sessions.
      1. Sections missed may be rescheduled at later sessions.
      2. Workshop sessions will be one half day each.
   B. Each workshop participant will tour a computer facility.
      1. Department of Administrative Service facility
      2. University of Nebraska facility
   C. Each workshop participant will submit workshop tests and evaluations.
      1. Pre-post test over computer terminology
      2. Overall workshop evaluation
   D. Each workshop participant will be appointed to a planning group in order to simulate planning for a computer application.
      1. Groups will be assigned by Divisions or common problem areas.
      2. Planning format will be provided

Topic Outline:
Lecture/Discussion - number one

I. Data representation
   A. Historical development of base ten system
      1. Anthropologists relate base ten to mans ten fingers
      2. Early man could have developed a base five system
   B. Development of a base two system
      1. Base two (Binary)
      2. On-off, punch-no punch, magnetic polarity
   C. Concepts of data storage (Units)
      1. Bits
      2. Bytes--data field
      3. Words
      4. Records--blocks
      5. Files
      6. Data Bases
   D. Data representations/arrangement
      1. Fixed Binary
      2. Floating Binary
      3. Packed Decimal
      4. Extended Binary Coded Decimal Interchange Code (EBCDIC)
   E. Character representations
      1. Extended Binary Coded Decimal Interchange Code (EBCDIC)
      2. American Standard Code for Information Interchange (ASCII)

II. Machine
   A. Power
      1. Speed
      2. Accuracy
      3. Reliability
      4. Universality
      5. Faithful
      6. Memory
   B. Limitations
      1. Complexity
      2. No inate-intelligence
      3. Cost
   C. Comparisons
      1. Of capacity-Brain stores 100,000,000,000 times more than computers
      2. Of speed-1 second=4 years of human work time
      3. Of cost-hardware costs compare to houses at $10 and cars at 25¢
   D. Generations
      1. Definitions
      2. So far:
         a. Tube machines
         b. Transistor machines
         c. Multi-processing, multi programming, teleprocessing
         d. Chip circuitry/miniturization/LSI(Large Scale Integration)
         e. ??

III. Hardware Schematic
   A. Input
   B. Central Processing Unit (CPU)
      1. Control
      2. Arithmetic Logic Unit (ALU)

3. Primary storage (core)
4. Secondary storage (direct access)

IV. Peripherals
A. Sequential
1. Card deck
a. 80 column
b. 96 column
c. 50 column
2. Tapes (magnetic reel and cassett-paper)
a. Seven and nine track
b. BCD, EBCDIC, ASCII
c. Inter Block Gap (I.B.G.)
d. Error detection and correction
(1) Parity bits
(2) LRC (Longitudinal Redundancy Check)
(3) VRC (Vertical Redundancy Check)
(4) CRC (Cyclical Redundancy Check)

V. Direct Access
A. Disk
1. Physical characteristics
2. How it works
3. Separate-self contained
4. Floppy disk
B. Drum
1. Physical characteristics
2. How it works

VI. Data Entry
A. Card oriented
1. Punch cards
2. Mark sense cards
a. 40 column
b. Punch and mark
c. Documents
3. Microfilm and punch
4. Unit record equipment
B. Paper type
1. Eight channel, five channel
2. Disadvantages/advantages
C. Optical Card Reader (OCR)
1. Special characteristic types
2. Documents
3. OCR - mark sense combination
4. Hand written
D. Magnetic Ink Card Reader (MICR)
1. Used mainly in banks
2. Senses characers via magnetization
E. Audio Input Output (I/O) devices
1. Telephone
2. VOTRAX Inc.
F. Computer Output Microfilm Process
1. Necessity - because of paper shortage
2. Used for both input and output - output most common
G. Point of Sale Terminals
1. Chain store use
2. Inventory

Lecture/Discussion - number two

I. Operating systems
   A. Definition: Set of routines which direct the operation of a computer.
   B. History
      1. Switches
      2. Card decks
         a. Operator tasks
      3. Operating systems
         a. Operator tasks
   C. System types
      1. Batch processing systems
      2. Multi-programming systems
      3. Multi-processing systems
      4. Virtual Storage Operating Systems (V.S.)
      5. Virtual Machine Operating Systems (V.M.)
   D. System tasks
      1. Core management
      2. Job management
      3. Task management
      4. Space management
      5. Input/output management
      6. Accounting management
      7. Language management
   E. System development
      1. "Kits" for software generation of operating system
      2. Stages of startup
      3. Initial Program Load (I.P.L.)
      4. Operational systems
         a. Houston Automated Spooling Process (HASP)
         b. Nebraska University Remote Operating System (NUROS)
         c. Conversational Monitoring System (CMS)

II. Languages and Packages
   A. Languages
      1. Non-interactive
         a. Assembler language
         b. Interpreters language
         c. Compiler language
      2. Interactive
         a. Basic or APL language
         b. Communicate with program <u>during</u> execution
   B. Packages Programs (canned)
      1. Present uses and examples
      2. Future uses and possibilities
   C. Stored Program Concept
      1. Peripheral-core storage
      2. Input-core-output
         a. Central Processing Units (CPU)
         b. Instruction Address Register (IAR)
         c. Branching
      3. Processes
         a. Problem through results
         b. Debugging programs
         c. Maintenance of programs
   D. Teleprocessing and Data Processing
      1. Definitions
      2. System examples
         a. Hard-wired
         b. Hard-wired or telephone
         c. Telephone

3. Basic components
   a. Data entry
   b. Data transmission
   c. Data processing
   d. Data storage
   e. Data inquiry
4. Modes
   a. Offline preparation-on line entry (NCR)
   b. Online preparation-online entry
   c. Shared data input
5. Transmission Lines
   a. Circuits
   b. Speed
6. Concepts
   a. Real time
   b. Time sharing
   c. Remote Job Entry (RJE)
   d. Data inquiry
   e. Message switching
7. Powers and Limitations
   a. Many users - Expense of lines
   b. Fast file access - Complex hardware and software
   c. Efficient computer use - Accounting problems and down time

III. Data Base
   A. Information management prerequisite
      1. Historical file use
      2. Quantity and volume
      3. Expense in time and dollars
   B. Data base systems attempt to resolve
      1. Reporting requirements
      2. Forms of information for present and future use
   C. Information Management Systems (IMS)
      1. Suggest large volumes of data
      2. Allows structuring of data elements
      3. Answers questions and generates reports
      4. Allows user flexibility in defining data structure and data use
      5. Program example
      6. IMS costs

IV. Privacy and Security
   A. Definitions
      1. Privacy
         a. Freedom from past
         b. Control of history revealed
         c. Freedom to be left alone
      2. Security
         a. Techniques
         b. Procedures
         c. Coding
         d. Passwords
      3. Rights to privacy
         a. Psychological
         b. Emotional
         c. Misleading data
         d. Error prone data
         e. Annoyance
      4. Federal requirements
         a. Notification of existance
         b. Permission to change
         c. Inspection by individual concerned
         d. Personal data by name
         e. Procedure for petition to change

FIRST LECTURE SUMMARY

DATA REPRESENTATION

Anthropologists tell us that man uses the base 10 system of numbers probably because he has ten fingers. When counting something, he counted until he ran out of fingers and then set aside a stick or rock to represent one "set" of fingers and started counting on his fingers again. When he later counted these "set" representations, he again set one aside to represent every ten. Thus, the base ten number system was created and used. We could have almost as easily wound up with a base five system, i.e., early man might have used only one hand to count and used his other five fingers to represent "sets" of five fingers, then a stick or rock to represent each "set" of five of his "sets" of five fingers.

If man would have been created with only one finger and one arm, he would probably use the same number system as the computer uses today, the base two or "binary" number system. This number system uses only two digits, 0 and 1. Everything done within a computer is done with this number system. It is handy because it only has two states to represent. These two states can be designated "ON-OFF" or "Punch-No Punch" or "North Polarity - South Polarity", etc. To describe one binary digit, the term "bit" was coined (Binary Digit).

The common unit of computer storage is measured in terms of these "bits". Eight of them make a quantity of storage known as a "byte". Several bytes make up a computer "word". The number of bytes in a word varies from manufacturer to manufacturer, but the more common sizes are two-byte, four-byte, and eight-byte words.

Several computer words which, when taken together, form a concise unit of information called a "record". For example, the amount of information that can be stored on a punch card is called a record. Several similar records form what is called a "file", and several similar files form what is called a "data base".

Numbers are most usually stored in a computer word, which as stated earlier, are different sized for different manufacturers. They can be stored in one of three ways: 1) binary fixed point; 2) binary floating point or 3) packed decimal.

Characters are almost always stored in one byte. To store a character as eight-bits (ones and zeroes) a code must be used. The two most popular codes in use today are EBCDIC (Extended Binary Coded Decimal Interchange Code) and ASCII (American Standard Code for Information Interchange).

MACHINE STRUCTURE

There are several reasons the computer has become so popular over such a short time span: speed, accuracy, reliability, universality and its memory. However, it has some disadvantages also: complexity, no innate-intelligence, and its cost. The latter of these disadvantages is becoming less of a disadvantage as technology advances.

The history of the computer can be broken down into four basic "generations". (Whenever an advancement is made that is regarded as having a major impact on the computer industry, it is labeled as starting a new computer generation.) The four current computer generations are:

1) Vaccuum tubes - first computers
2) Transistors - more reliable, smaller computers
3) Multi-programming, multi-processing - expanded number of possibleusers
4) Chips - micro-miniaturization of circuitry

The computer can be basically divided into four parts: input, CPU, core, and output.

The input is a device, e.g. card reader, tapes, disks, etc. that is capable of giving information to the processing unit. The CUP is divided into parts: the ALU (arithmetic logic unit) and control unit. The ALU processes the information (adds, compares, divides, etc.) while the control unit governs the information flow between the ALU and core.

Core is the primary storage of the computer that holds, temporarily, the instructions to be performed (program) and the data to be processed. Output, then, is some device, e.g. line printer, tapes, disks, etc., that is capable of receiving the results of the processing of the data previousl input.

There is also secondary storage associated with a computer. This storage is used to keep programs and data currently not needed in some case, but that will be needed later and can therefore be easily and swiftly retrieved.

PERIPHERALS

Peripheral storage can be basically divided into two categories: sequential and direct access.

In sequential storage information can be retrieved only in the exact order in which it was stored. For example, if you wanted to read the 511th record, you would have to first "read" the first 510 records. Card decks are the simplest examples of this type of storage. Magnetic tape is another very popular form of this type of storage. These types can have various densities (number of characters per inch) but all work in the same way and with about the same accuracy and reliability.

Direct access storage is the type of storage that allows any record to be accessed directly without "reading" all previous records. For example, if you wanted to read the 511th record of a file, you could directly access that record.

Probably the most popular form of this type of storage is the magnetic disk. It can be a stack of "platters" spinning simultaneously on a single platter, or even a small, pliable platter (floppy disk).

Another popular form of a direct access device is a magnetic drum. It operates on basically the same principle as disk, but instead of platters, it is one solid cylinder that spins at high speed. Because of its operating characteristics, it can transfer information stored on it at a faster rate than a disk.

One type of direct access device that is rapidly losing favor is a Data Cell. It is capable of storing large amounts of data, but, because of its very mechanical operating procedure, it has proven to a questionable, long-term reliability.

DATA ENTRY

The process of entering data to the computer in some form that it can recognize is often the most tedious and expensive part of data processing. It can be done in two different ways; online or offline. Online means that the computer is receiving the data as the user is describing it. Offline means that the data is being described and prepared without being given to the computer immediately. Most data entry devices are capable of some sort of offline capabilities and some devices can be used either online or offline.

The cheapest and most common type of data entry is the punched card. These cards, which can be 80, 96, or 58 columns long, represent data through holes punched in particular configurations. Some readers used for these cards are also capable of reading marks made on these cards by a lead pencil. These are called "mark-sense" card readers. The cards that use this way of representing data are the same size as regular punch cards, but can usually store only about half as much information because of the size of pencil marks needed.

Mark-sense readers can also be purchased that will read other sized of documents as well as punch cards. These readers can be programmed to read documents of varying sized and at different locations on each document. They are used widely for standardized testing as well as inventories, etc.

Paper tape is another form of data entry that allows keeping a physical record of input for data reference. It can be either five channel or eight channel and is quite similar to magnetic tape in the way it stores data. The disadvantage of this type of entry is its slow speed and awkwardness.

Optical character readers are becoming more widely used because they are an attempt to eliminate one step of data entry; that of transposing from original to computer readable. This type of device "reads" characters and numbers written by people on the original document. They usually operate on the offline mode and transfer the data they read to either cards or magnetic tape. At present their cost is quite high, but as all computer related equipment, is decreasing yearly.

Magnetic Ink Character Recognition is another form of data entry. It has been most widely used in the banking industry to record checks on master account files. These readers decipher characters by sensing the magnetic ink at a particular location on the document and deciding on its arrangment to determine the number it represents.

Point of Sale (POS) terminals rely on a unique type of data entry that utilizes a light pen. This pen "senses" the pattern of printed bars of different widths to determine the character or characters represented. This type of terminal will have very wide spread use before the end of the decade.

SECOND LECTURE SUMMARY

SYSTEMS

An operating system is, by definition, a set of pre-written routines which direct the operation of a computer.

Before operating systems were written, the process of running a computer program was a very long, tedious job requiring constant operator attention, e.g., the operator had to load the card reader with a deck of cards that would use the "source" program as input to produce machine language. Then the "source" program itself had to be read in. After the compiler had finished its processing, the operator would then takecare of punching the cards that contained the machine language program. If all went well to this point, the operator then would load a deck of cards that was a program that would put the recently produced machine language into primary storage. When this was done, the program would finally execute. If it required input itself, the operator would also have to load the input cards into the card reader for the program to use.

As you can easily see, a "dropped" card deck spelled disaster in those days, and programming was far more time-consuming than it is with an operating system.

The operating system controls almost all of the aspects that the operator had to previously do by hand, i.e., it will load into primary storage the compiler that is desired, the loader that will be needed later, take care of finding the appropriate input files, etc. All that is required is that the programmer adequately describe to the operating system all the functions his job will perform and all the files his job will use. He does this with one separate language made for the operating system (in the case of IBM, this language is called JCL or Job Control Language).

There are presently five basic types of operating systems:

1) Batch - ability to run only one program at one time.
2) Multi-programming - ability to run more than one program "simultaneously".
3) Multi-processing - ability to have more than one CPU processing from the same primary storage.
4) Virtual storage - an operating system that uses a concept of primary storage to make the CPU think it has more core than really exists.
5) Virtual machine - this type of operating system has the ability of making each uses believe he has his own personal computer to use.

The creation of an operating system is done by a process known as a "System Generation" where the installation has the ability to generate the proper routines for the installations system based on the physical hardware that exists and source of the software that is planned. This information is then used as input to a set of programs that create the operating system.

When the system has been created, an IPL (Initial Program Load) is done to load the appropriate parts of the operating system into core. After that, the system is operational and capable of processing jobs.

Another part of most operating systems is a set of routines used to "spool" input and output of the computer, thus freeing the input and output devices for other users.

LANGUAGES AND PACKAGES

Programs can be written in two different methods. One of these is by the use of a language, the other by use of some software package.

Languages are basically divided into two types, conversational and non-conversational.

A conversational (interactive) language is one that allows the user to interact with the program while it is executing, allowing him the ability to change the sequence of instruction or the ability to input data as it is required.

Non-conversational language can be divided into two categories: low-level and high-level.

A low-level language is essentially machine language. It is typically referred to as an Assembler language. In this language, there is a one-to-one correspondence between the commands a programmer writes and the machine code that is produced. An "Assembler" is used to convert from the EBCDIC form of the program to the machine language code the computer is expecting.

A high-level language is one which requires a "compiler" or program to convert from "English-type" commands to machine commands. This compiler translates each instruction into the machine language equivalent process which often requires several steps or individual machine commands for each line of the program. Fortran, PL/1, and Cobol are examples of this type of language.

A software package, on the other hand, is a pre-written or "canned" set of programs which can be executed with very few commands. The routines used in a software program were written so as to allow for several different circumstances, thereby allowing many problems to be solved with relatively little programmer time. The disadvantages are initial cost, maintenance, and flexibility. SPSS and OMNITAP are examples of this type of program.

The type of language used for any particular problem is entirely dependent on the specifics of that problem. Some languages are better suited for certain types of applications than others. A good programmer will spend a sizeable amount of time getting to know the specifics of a problem so the best language or software package can be chosen.

HOW IT ALL WORKS

The single largest advancement in computer technology was probably the use of the "stored program" concept. This means the program is stored in primary storage while it is being executed. A register in the control portion of the CPU keeps track of the location in core where the next instruction to be executed is located. Unless this register is altered, the instructions are always executed sequentially. The ability of the program to "transfer" to some instruction that is not the one that sequentially follows is called "branching". This means that some of the instructions change the address in this register to execute an instruction that is not sequentially next.

The process of writing a program can be broken down into five steps:

1) Problem is described and solution formulated.
2) Programmer codes solution in appropriate language.
3) Program is compiled and debugged.
4) Program is executed with appropriate input data.
5) Errors are detected and corrected and program retried.

One of the biggest problems of all programming managers is that of maintenance. As programs need to be changed because of different types of reports that are needed or because of some other change, code must be altered. This presents a problem if the originator of the program is unavailable to modify his own program. It becomes

essential, therefore, that each program is well documented, i.e., a thorough explanation of each part of the program must be included in the program to allow someone else to "follow" what the code does and how it does it.

TELEPROCESSING

The word teleprocessing is derived from the terms telecommunications and data processing. It is a method of processing data in which the input and output devices are in a different location than the computer. The term describing the physical characteristics of a teleprocessing system is a "teleprocessing network".

Teleprocessing networks stretch over the entire spectrum of possibilities from the simple terminal located a few hundred feet from the CPU to vast networks spanning the globe with many computers communicating with each other.

The five basic components of a basic teleprocessing system are:

1) data entry
2) data transmission
3) data processing
4) data storage
5) data inquiry.

All of these components are present in any teleprocessing system. They can be accomplished in one of several different modes:

1) offline data preparation -- online data entry
2) online data preparation -- online data entry
3) computer assisted data entry
4) shared data input.

The physical movement of the data from the remote location to the computer site is accomplished by using one of three different types of communication lines:

1) simplex -- transmission of information in only one direction;
2) half duplex -- transmission of information in two direction, but only one way at a time;
3) full duplex -- transmission of information in two directions, possibly simultaneously.

These lines can be telephone, telegraph, or micro-wave, each of which are capable of different speeds.

The speed of transmission possible is measured in terms of "baud" or"bits per second." A voice grade phone line, for example, is capable of transmitting at a rate of 9600 baud.

Before "bits" can be sent down a line to a CPU at some remote location, they must be changed into a form useable by the phone lines. This means that the ones and zeros must be changed into frequencies different from each other and within the range of the line. This is accomplished with a Modem or "data set". One of these devices must be located at the sending, as well as at the receiving sites. At the sending site it converts from bits to frequencies, and at the receiving site it converts from frequencies back to bits. A TCU (Telecommunications Control Unit) at the receiving end then passes this information to the CPU for processing.

Some teleprocessing systems use a "time sharing" network which is a way of sharing the CPU time between multiprogramming and teleprocessing when, to the individual user, it seems as if only one process is going on in the CPU.

A remote job entry is another part of some teleprocessing networks. This term refers to a location that has the essential I/O equipment at a site remote from the

CPU, But capable of processing with it by the use of a communication link. This is very often used at installations where there is a relatively large volume of information to be handled, but not sufficiently large enough to justify a computer for only that purpose.

Some of the more obvious powers of a computer system are:

1) Many users possible on one system;
2) Fast access to data bases from several locations "simultaneously";
3) More efficient computer usage and therefore easier cost-justification.

The disadvantages of a teleprocessing network include:

1) Cost (lines, TCU's, Modems, terminals, software, etc.);
2) Complexity;
3) Down time during crucial periods.

DATA BASE

Because of the tremendous amount of information necessary for the operation of business, industry and government agencies, a method of reducing the chance of redundancy is necessary. This can best be accomplished by the use of a data base.

A data base is a collection of information pertaining to some general subject area. It can consist of one very large file, or several files of varying sizes. From this large amount of information, questions can be answered and reports can be generated.

The set of programs that are used for the purpose of using and maintaining a data base are usually referred to as an Information Management System.

This type of system is typically quite expensive and in order to cost-justify it, three things are necessary:

1) There must be a large value of information;
2) The information must be capable of being structured in a clear and concise way;
3) Reports and summaries from this information will often be needed.

When this type of system is operational, it must allow the user various functions:

1) The ability to define the structure of the data;
2) The ability to add, delete, and update the data;
3) The ability to generate reports and summaries based on only a few or all cases represented in the data.

One problem in large computing installations is keeping track of the number of similar data bases at that installation to avoid data base redundancy.

Because of the advent of the computer, data base handling has become considerably easier and less time-consuming than was previously possible. This relative ease of data base management brings about the problems of privacy of personal information. This topic will be discussed at a later time.

PRIVACY AND SECURITY

Although many people use the terms privacy and security almost synonymously, they describe two different aspects of computer data bases.

Privacy, by definition, is the voluntary withholding of information, reinforced by a willing indifference of others. In the past few years, this concept has become

a subject of controversy as more people become aware of the ability of the computer to store and retrieve information about them that they thought was "private".

The "right" to privacy has many ramifications for each individual, among them:

1) the freedom to keep the past from influencing the future;
2) the ability to control the amount of personal history revealed;
3) the ability to be left in solitude.

Psychologists tell us that these rights to privacy are necessary for each individual. This gives him a sense of autonomy and a freedom for emotional release that is otherwise denied. It is a freedom and peace of mind that a person has when he feels he is not always being watched and compared to the "norm". The opposite of the feeling is a sort of "1984" feeling of uneasiness and tension. Privacy allows a person to self-evaluate and allow him a chance at self-improvement.

Since the extent of this right to privacy and all that it connotes is really a moral question, some of the "private" information in existence today should be looked at with scrutiny. These include:

1) Social Security data bases;
2) IRS data bases;
3) FBI data bases;
4) VA data bases;
5) HUD data bases; etc.

There are files (data bases) in existence on a national level, but of no less importance is similar information on the state and local level.

The existence of the information is usually not a threat to privacy in itself; indeed, the information is often necessary if certain programs and services are to function effectively. The problem exists when the information is used for some reason other than that for which it was intended. This can result in misleading data for any individual which can prove to be, at least, annoying to that person.

Because people are beginning to feel that these rights to privacy are being violated, national and state laws are being enacted to try to protect this right from being abused.

On the federal level, the most current attempt to protect an individual's privacy can be found in the federal law entitled the "Privacy Act of 1974". This law provides the following be true for all federal agencies:

1) Whenever a public agency maintains information on a person, that person must be notified that the file exists.
2) The information being retained cannot be provided to any individual or organization, other than the agency holding the information, without the permission of the person to whom the information relates.
3) The name and position of every person who inspects the information must be maintained by the system for audit purposes.
4) An individual is permitted to inspect his own record and to make copies.
5) An individual may petition an agency to supplement or change any information pertaining to him on record, and action taken pursuant to the request or denial of such request with due cause within 30 days.

The impact this law will have on society will not be known for a while since all articles of it are not required to be in effect until September 26, 1975.

State laws regarding this same attempt at privacy protection are being drafted by every state in the union. Some are well-conceived and others almost unenforceable. The final outcome of the public outcry will not be realized for several years.

Security, on the other hand, is the measures taken to insure access to information is achieved only qualified people. This is a relatively new area to computer technology and advances will be rapid.

Presently, such systems as "Passwords" for files and the encryption of data in these files is what is being used by most installations. This is often proving to be inadequate since, with the computer as a tool, clever programmers can often still gain unauthorized access.

Topic Outline:
Lecture/Discussion - number three

I. Management Information System (Nebraska)
   A. Historical development of Nebraska's system
      1. Coordination responsibility of the State Department of Education
      2. Communications with Local Education Agencies (LEA)
         a. Regulations
         b. Data collection
         c. Accountability
      3. Establishment of the State Department MIS Committee
      4. Development of the Nebraska Vocational Information System (NVIS)
   B. Prerequisite to operating Management Information Systems
      1. Established communications
      2. Procedures for planning
      3. Operational definitions
      4. Measurable goals and objectives
      5. Staff commitment
      6. Budget commitment
   C. State Department of Education MIS Committee
      1. Responsibilities
      2. Task Force selection
   D. Task Force Responsibilities
      1. Objectives
      2. Scope of the study
      3. Level of the study
      4. Output
   E. Task Force Procedures
      1. Situation Briefing
      2. Organizational Review
      3. Executive Interview
      4. Data Synthesis and Analysis
      5. Recommendation Formulation
      6. Report Preparation
   F. Task Force Products
      1. Process View of the State Department of Education
         a. Leadership
         b. Department of Administrative Management
         c. Regulation
         d. Flow-through funding
         e. Consultation
         f. Educational data collection
      2. Information System Outline
         a. Management control
         b. Financial management
         c. Program management
         d. Educational data management
         e. Logical data base elements
      3. Recommendations
         a. Resource utilization
         b. Financial management
         c. Local Education Agency accounting
         d. School personnel
         e. Departmental staff inservice

II. Nebraska Vocational Information System (NVIS)
   A. Proposal development
      1. Relationship to State Department MIS
      2. Goals and objectives
      3. Data elements
      4. Field test
   B. Project accomplishment
      1. Instrument collection and review
      2. Staff inservicing
      3. Instrument development

4. System design

C. Summary
   1. Needs for computerization
   2. Benefits of computerization
   3. Planning, Programming and Evaluation

THIRD LECTURE SUMMARY

MANAGEMENT INFORMATION SYSTEM

The concept of information management is not new to the field of administration. The Nebraska State Department of Education has been involved in the review of information use for a number of years. An MIS committee made up of representatives from each Division of the State Department of Education, has operated periodically over the past six years. During January of 1975, the Department MIS Committee was assigned the responsibility of conducting a review of information needs in all areas of the State Department of Education.

The responsibilities of the State Department as an administrative agency require massive banks of information in order to facilitate the delivery of education to Nebraska citizens. The State Board of Education is a constitutional body, elected by the voters of the state, operating through the Commissioner of Education and Department staff. The Department's responsibilities fall under broad categories of leadership, regulation, administrative management, consultation, flow-through funding, and educational data collection.

Coordination of information to some 1200+ school districts, four State Colleges and two University Campuses requires a variety of different kinds of datas. Regulatory and evaluative functions connected with funding requirements of state and federal money is a continuous process for Department staff. The pressure of accountability is increasingly apparent as evaluation of programs becomes part of Department function. This increasing activity in evaluation causes many diverse types of information collection which in turn requires storage and access capability.

The computer as a tool of management can be an effective device for storage and retrieval of large quantities of information. Effective information management is a requirement to the development of a Management Information System. This concept implies that policies and procedures of data acquisition and treatment are in operation. An effective Management Information System requires that:

1. Communications between departments and personnel using data from the system be positive and open.
2. Procedures for involvement of departments and personnel in the planning process be operational.
3. Operational definitions be established to guide the understanding and interpretation of policies.
4. Measurable goals and objectives be established in order to provide common direction to personnel and indications of success or failure to the total operation.
5. Staff assignment be provided to maintain the Management Information System as a service to management.
6. Budget commitment be provided for system maintenance.

TASK FORCE

With the delegation of the responsibility for reviewing the State Department of Education information needs, to the MIS committee, it became apparent that specific

tasks and assignments would be necessary. The MIS Committee appointed a task force made up of representatives from each of the four Divisions of the State Department, and key people involved with data acquisition and processing. Purposes and objectives of the task force were identified (Information Study Committee February, 18, 1975) and co-chairmen appointed. Results of the task force were compiled into a report (Management Information System Study) that contained system design, approaches to implementation and recommendations for management. The procedures used in assessing and planning information system needs was supported with IBM representatives trained in system planning. This service porvided guidance to the planning process and outside objectivity to the task force. The planning process used by the task force is based upon top level administrative views of departmental direction and objectives. Executive interviews, organizational review and department responsibility review were techniques used by the task force to determine information system requirements.

NEBRASKA VOCATIONAL INFORMATION SYSTEM (NVIS)

In December of 1973, the State Department of Education, Division of Vocational Education submitted a proposal prepared by the Research Coordinating Unit for Vocational Education to the U.S. Office of Education. This proposal was subsequently funded in July of 1974 and was directed at designing a system to collect information about vocational programs from Local Education Agencies (LEA). This system is to collect student, teacher, program and school data for used in planning, administering and evaluating vocational programs in Nebraska. The NVIS project was designed to become part of an overall management information system of the State Department of Education.

Upon completion of the instrument development and computer program development phase, the project system will be field tested for local school compatibility. A part of the project emphasis is training key Vocational Division staff members in the operation and maintenance of the system.

SUMMARY

The task force report has identified the direction in which the department must move in order to develop information management capability. Needs for a computerized system are well documented in the volumes of reports and administrative data required for Departmental operation. A computerized program can effectively reduce the number of manual data processing and accounting practices now operating within the Department.

Effective use and maintenance of a computerized system will depend upon the extent of commitment to system maintenance by administrators and the commitment of the system to serve management functions of the Department.

LECTURE THREE
HANDOUT

The purpose of this presentation is to present information regarding efforts of the State Department of Education to develop a "computerizable" information system in support of its administrative responsibility. Several events and activities are taking place within the Department and within state government that may influence our personal job functions. It is the belief of this writer that knowledge of what is happening, on the part of individuals affected and, in positions of responsibility is the best approach to implementing change.

Planning for change is the business of professionals. Continually reacting to change without planning is a failure to offer responsible leadership to the community served.

Operational Definitions:

Management Information Systems (MIS) A total system of organized information banks, procedural guidelines and organizations designed to support administrative and management decision requirements.

Management by Objectives (MBO) A planning procedure designed to provide planning and evaluation communications between administrative levels of an organization.

MIS Committee An operational committee of the State Department of Education charged with study, review and approval of information collection and computerization.

Nebraska Vocational Information System project (NVIS) A federally funded project to develop a computerized vocational information system compatible with the SDE system and supportive to administration of vocational programs.

Data Element The smallest unit of information collected, for filing and retrieving in the same form.

Planning Activities related to advance estimating, goal setting, procedural and evaluation criteria identification in order to systematically set out to achieve an objective.

Programming The daily routine of administering or servicing educational activities prescribed during earlier planning activities.

INFORMATION STUDY COMMITTEE

February 18, 1975

OBJECTIVES

1. Identify information needs of the State Department of Education in terms of structure, timeliness, and integrity.
2. Review the present level of information support provided for decision makers.
3. Develop an information system plan to support department management.

SCOPE OF THE STUDY

1. Will include all four divisions of the State Department of Education
2. Will involve one Nebraska School District
3. Will involve the Commissioner and one member of the State Board of Education
4. Will include one member of the Department of Administrative Services

LEVEL OF THE STUDY

1. Overview of the total Department
2. Overview of each Division
3. General knowledge of Sections/Programs

OUTPUT

1. Findings
2. Conclusions
3. Process view of the State Department of Education
4. Definition of network of logical information system
5. Recommendations
6. Starting point
7. I/S Management (Hardware, Software and Staff)

PLANNING TASKS

Task 1	
Present Situation Briefing	1 to 1 1/2 days Orientation of team members and overview of the organization.
Task 2	
Process View of the Organization	Defining decisions of the State Department of Education 2-3 days
Task 3	
Executive Interviewing	Interviewing top level personnel to determine mission, goals, objectives, etc.
Task 4	
Key Area Interviewing	Interviewing top level personnel to determine mission, goals, objectives, etc.
Task 5	
Data Synthesis and Analysis	Refining results of interviews
Task 6	
Information System Management Review	Establish data base definitions
Task 7	
Information System Network Definition	Structure a system of logical data basis and related decision areas into an Information System Network which supports the requirements of the Management Control System.
Task 8	
Recommendation Formulation	Preparation of specific recommendations with action plans for management approval and support.

Task 9

Report Preparation	Publish a report of study findings and recommendations for distribution to executive management.

Task 10

Report Presentation	Make executive management aware of study findings and secure approval of action plans.

RECOMMENDATIONS ADOPTED BY THE STATE BOARD OF EDUCATION

APRIL 1975

1. DEVELOPMENT OF A LOGICAL INFORMATION SYSTEM NETWORK TO ELIMINATE DUPLICATION OF INFORMATION COLLECTION AND PROVIDE A BROAD BASE FOR EDUCATIONAL DECISION MAKING.

2. STAFF TRAINING IN BASIC COMPUTER CONCEPTS TO AID PLANNING AND USE OF THE INFORMATION SYSTEM.

3. RESOURCE UTILIZATION STUDY TO DETERMINE THE SIZE OF THE EFFORT REQUIRED TO BUILD THE LOGICAL INFORMATION SYSTEM AND TO THEN SELECT FROM THE IMMENSE AND GROWING NUMBER OF POSSIBLE EQUIPMENT COMBINATIONS, A REASONABLE AND EFFICIENT METHOD FOR BUILDING THE MIS SYSTEM.

4. CONTINUED SUPPORT FOR INFORMATION SYSTEMS PLANNING TO INSURE THE INFORMATION SYSTEM CONTINUES TO BE CONSISTENT WITH THE CHANGING NEEDS OF THE DEPARTMENT.

5. SELECTION OF THREE SYSTEMS AS FIRST PRIORITY STARTING POINTS, A DEDEPARTMENT FINANCIAL MANAGEMENT SYSTEM, L.E.A. ACCOUNTING SYSTEM AND A SCHOOL PERSONNEL SYSTEM.

FIGURE I

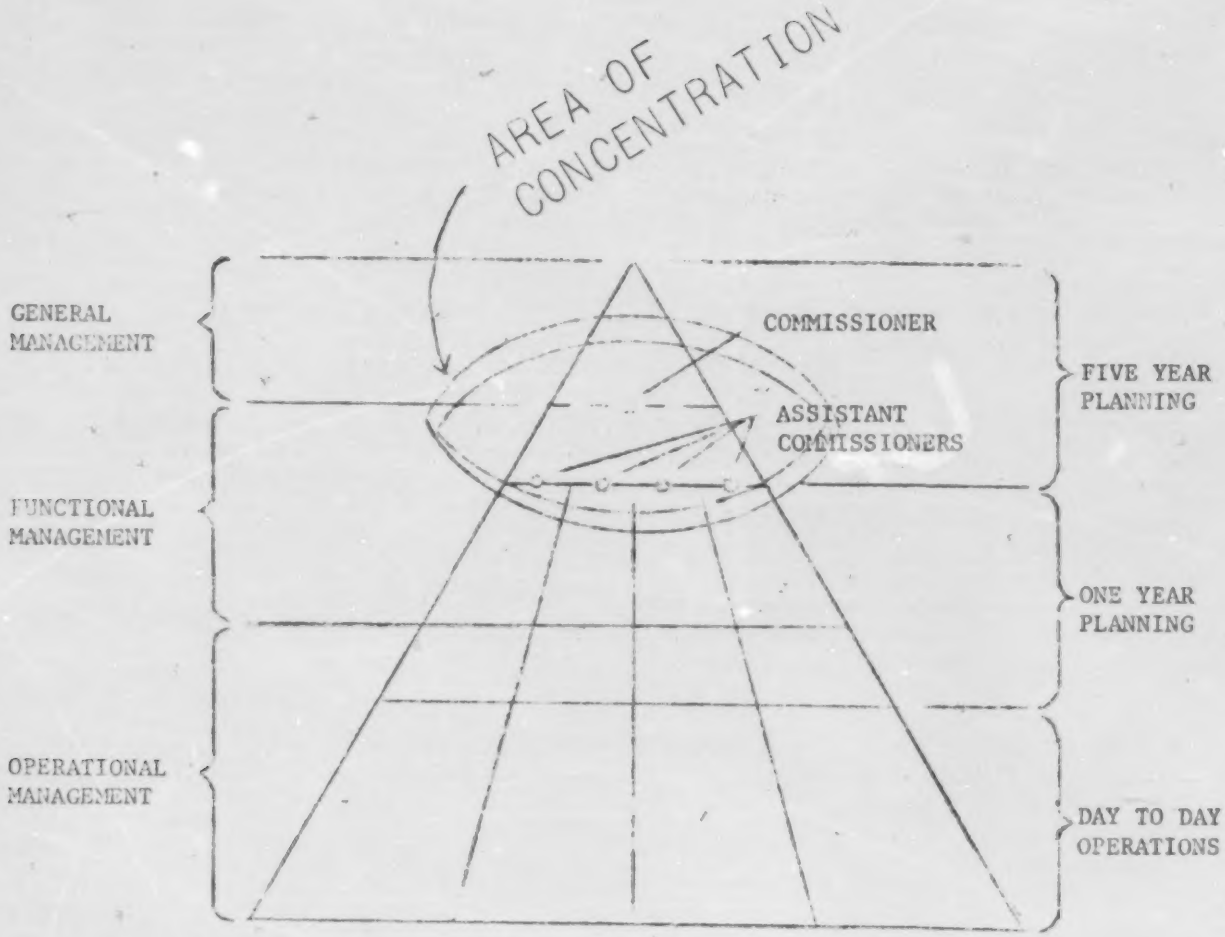
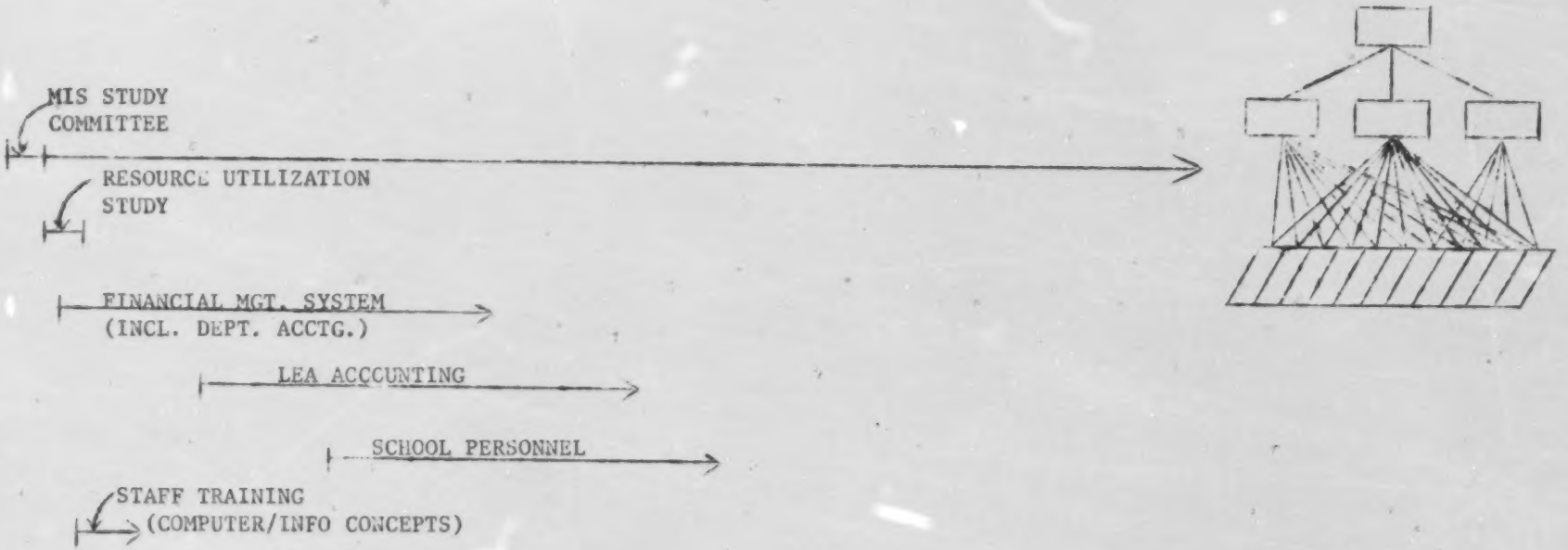
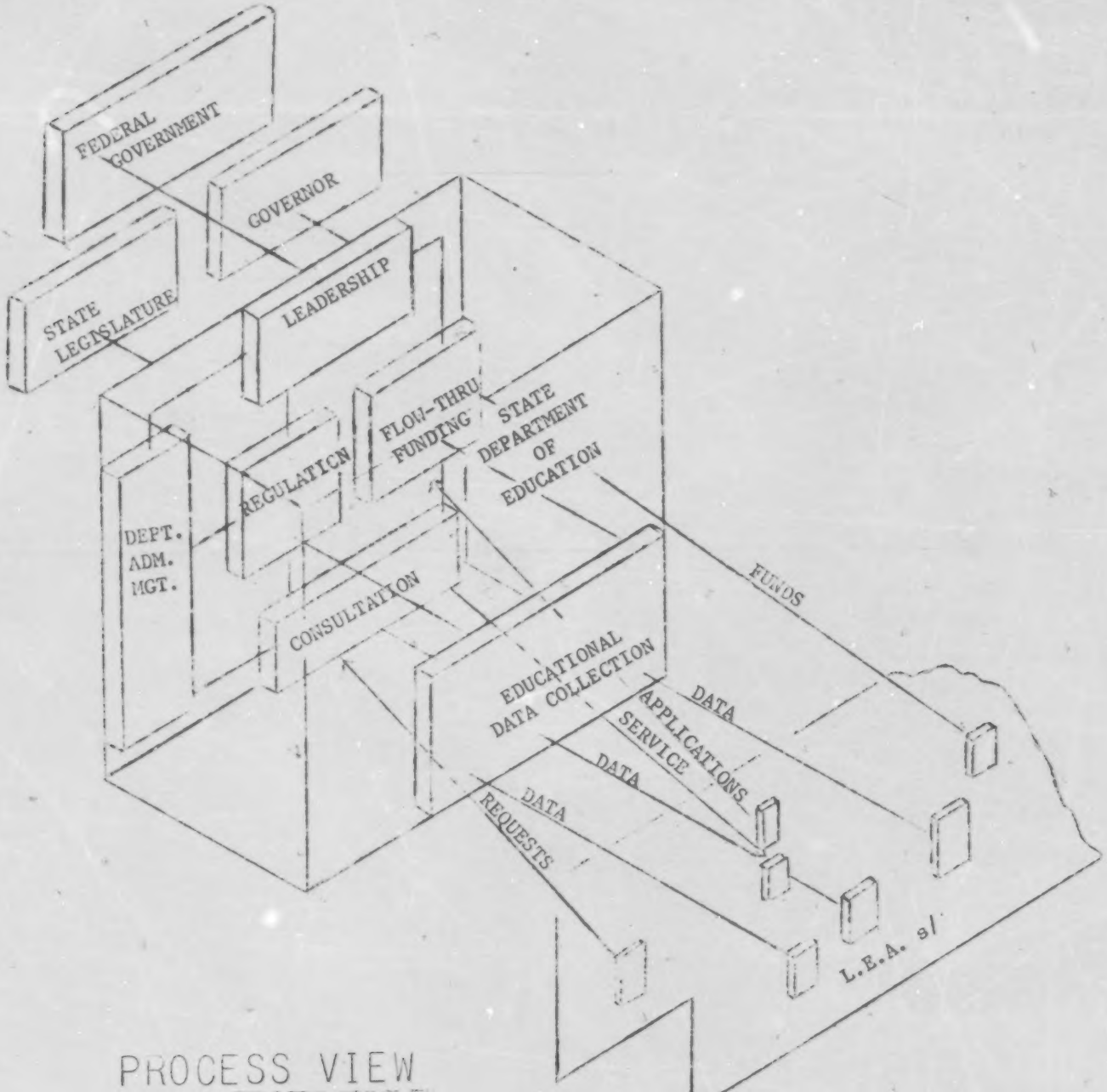

AREA OF CONCENTRATION
GENERAL MANAGEMENT
FUNCTIONAL MANAGEMENT
OPERATIONAL MANAGEMENT
COMMISSIONER
ASSISTANT COMMISSIONERS
FIVE YEAR PLANNING
ONE YEAR PLANNING
DAY TO DAY OPERATIONS

FIGURE 2



SCHEDULE OF EVENTS

MIS STUDY
MARCH 1975

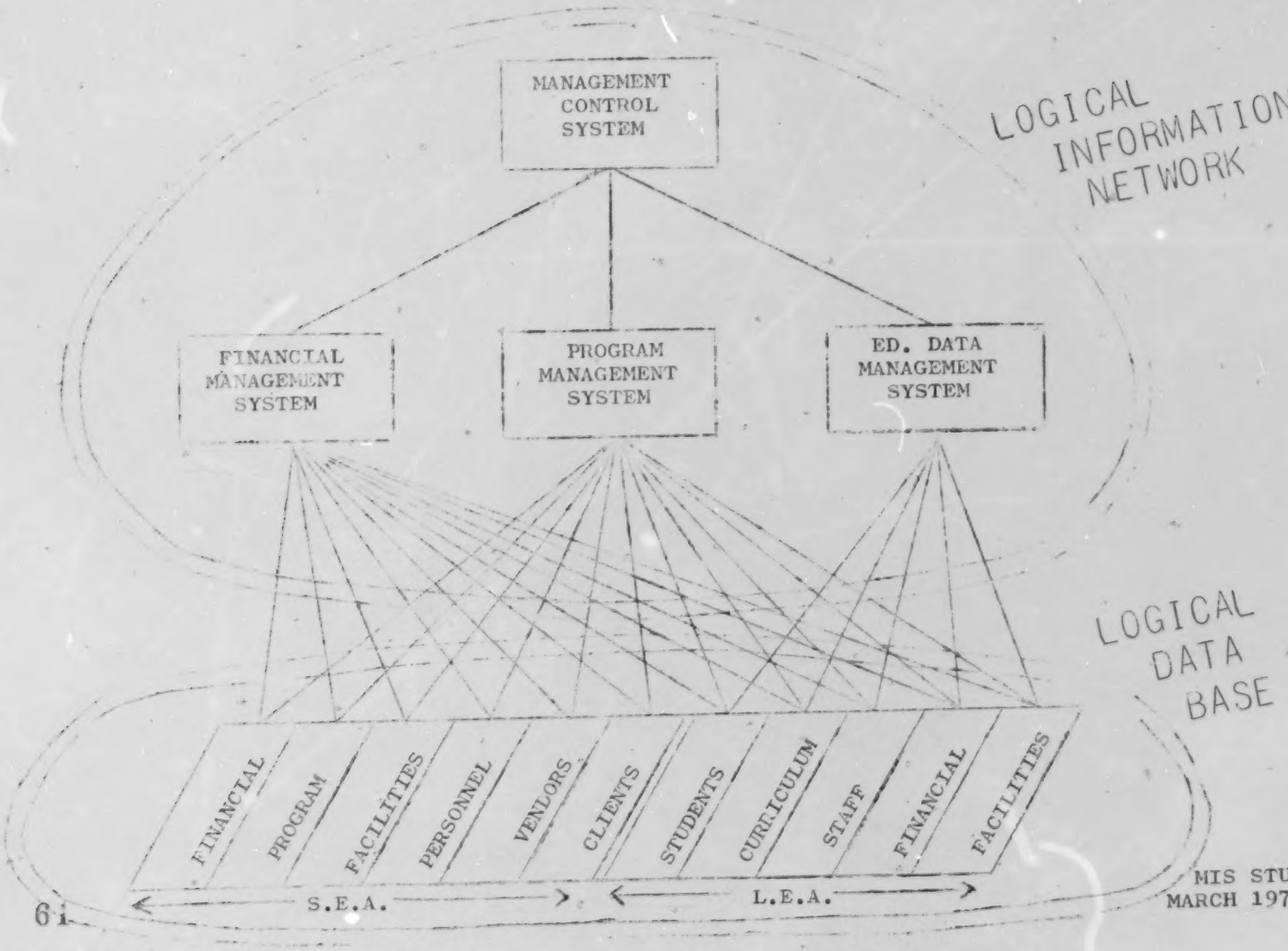


PROCESS VIEW

FIGURE 3

FIGURE 5

INFORMATION SYSTEM OUTLINE



Topic Outline:
Lecture/Discussion - number four

I. People used in Data Processing
   A. Historic Roles and Duties
      1. Data Processing User
         a. Non technical people requesting computer assistance
         b. Without this person positions 2-6 would not exist
      2. Systems Analyst
         a. Develops alternate solutions
         b. Detail design of system
         c. System testing
         d. Documentation of system
      3. Programmer
         a. Selects an efficient language for coding system
      4. Operator
         a. Runs programs through a computer
         b. Service computer requests for tape mounts etc.
      5. Operating Systems Staff
         a. Maintains operating system
         b. Maintains job accounting system
      6. Data Entry Staff
         a. Translate data to computer readable form
         b. Operate a keypunch or a CRT
   B. Future Roles and Duties
      1. MIS Staff
         a. Responsible to top management for proper MIS administration
         b. Insures new system conform with future needs of the Department
         c. Controls forms to be used by Department for data collection
         d. Develops a general policy statement for Department information handling
      2. Systems Planner
         a. Responsible to MIS staff
         b. Studies the long range needs of the Department
         c. Develops a data base solution for user and management needs
         d. Aids user in planning effectively to use MIS
         e. Informs operating system staff of future computer system requirements

II. Specific Flow From Problem To Application
   A. Information Systems Planning Worksheet
   B. System Design
   C. Programming and Testing
   D. User Education
   E. Conversion
   F. Final Acceptance

III. Existing System in Department of Education
   A. General Description
   B. Problems
   C. Future Plans

PEOPLE USED

In the last fifteen years there have been six generally accepted roles or job types in data processing. The most important of these is the DP user. The user is one who has a need of computer services but is not generally as capable of utilizing the computer without the assistance of technical personnel.

The systems analyst is responsible for converting the user's request for service into a form which is meaningful to technical computer personnel. He may consider several alternatives for accomplishing the desired result and from them select the method which will be most efficient in terms of resources (people and computer) involved. For the selected alternative, the systems analyst will prepare a detailed design which attempts to completely describe the desired product in terms of input to the computer, output from the computer and processing to be performed by the computer.

The detailed design documents, referred to as program specifications, are then given to a programmer for development. The programmer's task is to write a computer program to efficiently perform the tasks described in the program specifications. The programs are written in a programming language which is a set of instructions which is readily understood by the programmer and which can be converted by the computer into electrical-mechanical operations to accomplish the desired tasks.

When the programming is completed, the systems analyst performs sufficient tests to insure the system will operate satisfactorily. Finally it is the duty of the systems analyst to develop the documentation for the systems. The purpose of the documentations is to provide a reference for understanding the operation of the system which will be required when modifications are made. To aid in documentation, the systems analyst uses data layout forms, printer layout forms and flow charts.

The computer operator is the person physically responsible for the operation of the computer. His duties may include: turning on the computer and performing initialization procedures which are required before productive operation may begin, running development, test and production programs for programmers, systems analysts and users, mounting computer tapes, distributing printed output and reading decks of punched cards into the computer.

The operating systems personnel are responsible for developing and maintaining a master set of computer programs known as the operating system. All programs which are submitted by programmers, systems analysts and users are subordinate to the operating system and depend on it in order to be processed. The operating system is also responsible for making a log of the computer resources used by each program and providing billing information.

The data entry staff's function is to convert data into machine readable form. This is accomplished with a keypunch, a CRT or other data entry device.

The above roles are typical of data processing operations for the past ten to fifteen years. Operation of these shops has been oriented at an application by application level. The future trend is to organize the operation at a higher level (i.e. Company or Agency). In this type of organization the goal is to share data as much as possible between applications, avoiding duplication of effort, and to provide company administrators with management information summarized across multiple application areas. To achieve this goal the role of the Management Information System (MIS) Staff has been created. The MIS Staff is responsible to top management for proper administration of the MIS. They approve the development of new systems,

insuring that they conform with current and future needs of the company. They have control over data collection forms and may develop a company policy for the handling of information.

Often the MIS staff members are not assigned full-time but are part-time representatives from the various areas of the company. In this case systems planners may be assigned full-time to do the bulk of the work. Included in their duties are the determination of long range needs of the company, the development of the data base future needs.

SPECIFIC FLOW FROM PROBLEM TO APPLICATION

The Department of Education has developed a computer planning worksheet to aid users in thinking through and completely describing the data processing services they require. The worksheet document can be used to justify the request to the Assistant Commissioner in charge of the Division who must approve the budget and to the MIS committee who approve the resource allocations which will be required for the service.

The user then meets with the systems analyst to prepare the detailed design of the system. The analyst prepares the design specifications and then may forward them to Central Data Processing (CDP) at the State Capital Building for a cost estimate for developing the system. If the cost estimate is approved, CDP develops and tests the program. Alternately, the analyst (in the Department of Education) may elect to program and test the system himself using the computer at CDP or the computer at the University of Nebraska.

Informal education programs are prepared by the analyst to explain to the users, the data entry staff and the operations staff the operation of the system and their responsibilities. Complete system testing is performed involving all personnel who will be working with the systems. Problems are then diagnosed and eliminated.

To successfully implement the system, a conversion plan is developed which describes an orderly change from the existing system to the newly developed system.

When the system is implemented and is satisfying the operational criteria established initially by the user on the information planning worksheet, the MIS committee and the user are than requested to officially accept the system as being completed.

EXISTING SYSTEMS IN THE DEPARTMENT OF EDUCATION

Currently the Department has thirteen major data processing systems in operation. The majority of the systems are used to compile data on local schools which is reported to the Department annually. The largest file being used is the Teacher Certification file which contains information on our 75,000 individuals.

General problems which exist with the current systems are slow response time and poor facilities for handling error conditions. All of the current system now in use were developed independently on an application by application basis which causes duplication of data handling and does not provide management with department-wide information.

Future plans include the utilization of the MIS staff to implement the long range plan for information management which was established by the Information Systems Planning Committee in February and March of 1975. Major elements of this plan include merging all new and existing data files into a data base system for the department and the acquisition of adequate computing machinery to support this activity.

SYSTEM DESIGN AXIOMS

1. Information systems are capital investments.

2. Build success criteria measurements into the operational system.

3. System is for the user.

4. Establish landmarks for system development.

5. Don't be afraid to cancel projects.

6. Get management to participate where it counts.

7. People are the problem.

8. System development is an iterative process.

9. Consider as many design alternatives as feasible.

10. The great leap forward is best accomplished in short comfortable hops.

11. When in doubt . . . . .document.

12. Use documentation to structure the design process.

13. Establish checks and balances for:

    management
    the user
    the data center
    the systems analyst
    the programmers
    the procedure writers
    other outside interests such as auditors.

*14. If you can't plan it you can't do it.

15. Procedures are as important as programs.

16. Conversion is a system.

NDE DATA PROCESSING - BRIEF DESCRIPTIONS

1. Teachers Cert: Maintain a record of 70,000 teachers certified since 1964.

2. Fall School Personnel: Compiles a file of school personnel their position and the subjects taught.

3. Accreditation Report: Combines information from fall personnel report and the teacher cert file to print a report of teachers not teaching in an endorsed field.

4. Curriculum Report: Combines the fall personnel report and the teacher cert file to print a report of the number of students enrolled in each course and the number taught by teachers teaching in their endorsed field.

5. Annual Term Summary: End of school year report on aggregate attendance, graduates, dropouts, death, personnel adult education. Also summer school and transportation data.

6. Handicapped Information System: Last file update two years ago. Data on student by name, handicap and severity of handicap.

7. Vocational Rehabilitation Cases: System to manage information of clients being rehabilitated by Division IV. Keeps a detailed account of each client and any vendors which may be participating in the clients rehabilitation.

8. Annual Financial Report: Summary report of all financial transactions of the district, current valuation and budget for the ensuing fiscal year.

9. Title One Project: A computerized evaluation of school districts receiving Title I funds.

10. Aid to Education: Processes data on assessed valuation, mill levy, average daily membership, population density, etc. and calculates the state aid payment for each district and writes warrants.

11. Fall General Information Reports: Builds a report of 1) district and school system data, 2) staff and personnel, 3) financial data, 4) state aid, 5) demand and supply of teachers.

12. Fall Enrollment Report: Report of student enrollment by grade and ethnic origin.

13. School Lunch Accounting: Verifys the correctness of claim for reimbursements for school lunch programs and writes warrants.

GOALS FOR THE STATE DEPARTMENT OF EDUCATION INFORMATION SYSTEM (APPENDIX)

1. To improve the probability of making good decisions in matters related to education by providing:

   a. Accurate information, to
   b. The people who need it
   c. When they need it
   d. In a form in which they can readily understand it.

2. To provide excellent information for the least possible cost.

3. To reduce to a minimum the amount of time required of local schools and other agencies in reporting information.

4. To maximize the flow and common use of information between the various divisions and sections of the State Department of Education.

5. To assist and cooperate with other agencies (state and local) to maximize the flow and common use of information between the various agencies of the State of Nebraska.

6. To continually analyze the operation of the information system to be certain that it changes to meet the needs of users, rather than becoming entrenched in its own mechanics.

ADMINISTRATIVE POLICIES & REGULATIONS

FOR THE SDE INFORMATION SYSTEM

1. All contacts with DAS computing facility should be routed through the SDE systems analyst.

2. All requests for information from local agencies which are to be administered or endorsed by the SDE should be submitted to the Chairman of the Information Committee for review by the committee.

3. Report forms to be used by the SDE for data collection should be reviewed by the committee to reduce the risk of repetition or duplication.

4. Reports designed to disseminate data collected by the SDE should be reviewed by the committee to reduce the risk of repetition.

RESPONSIBILITIES OF THE SDE MIS COMMITTEE

1. Create and maintain a specific listing of the information needs of the SDE (including new information requests).

2. Review and evaluate each listed information need to be certain that it is realistic, and justifiable.

3. Identify each piece of information currently collected as:

   a. Efficiently collected and necessary;
   b. Collected, but unnecessary;
   c. Collected inefficiently but necessary (i.e. duplicate or multiple collection of same information).

4. Review the listed information needs to identify those which are not currently met.

5. Review all forms used for information collection to insure that they are designed as clearly and simply as possible.

6. To analyze current data collection and processing procedures to insure they are operated at minimum cost.

7. To make recommendations on staff, equipment and procedures for information processing.

8. Assemble and disseminate to schools and state agencies descriptions of the information available through the State Department of Education.

9. Review and make recommendations on all "one time" data collection requests from sources within or out of the SDE (i.e. research projects, investigations, etc.)

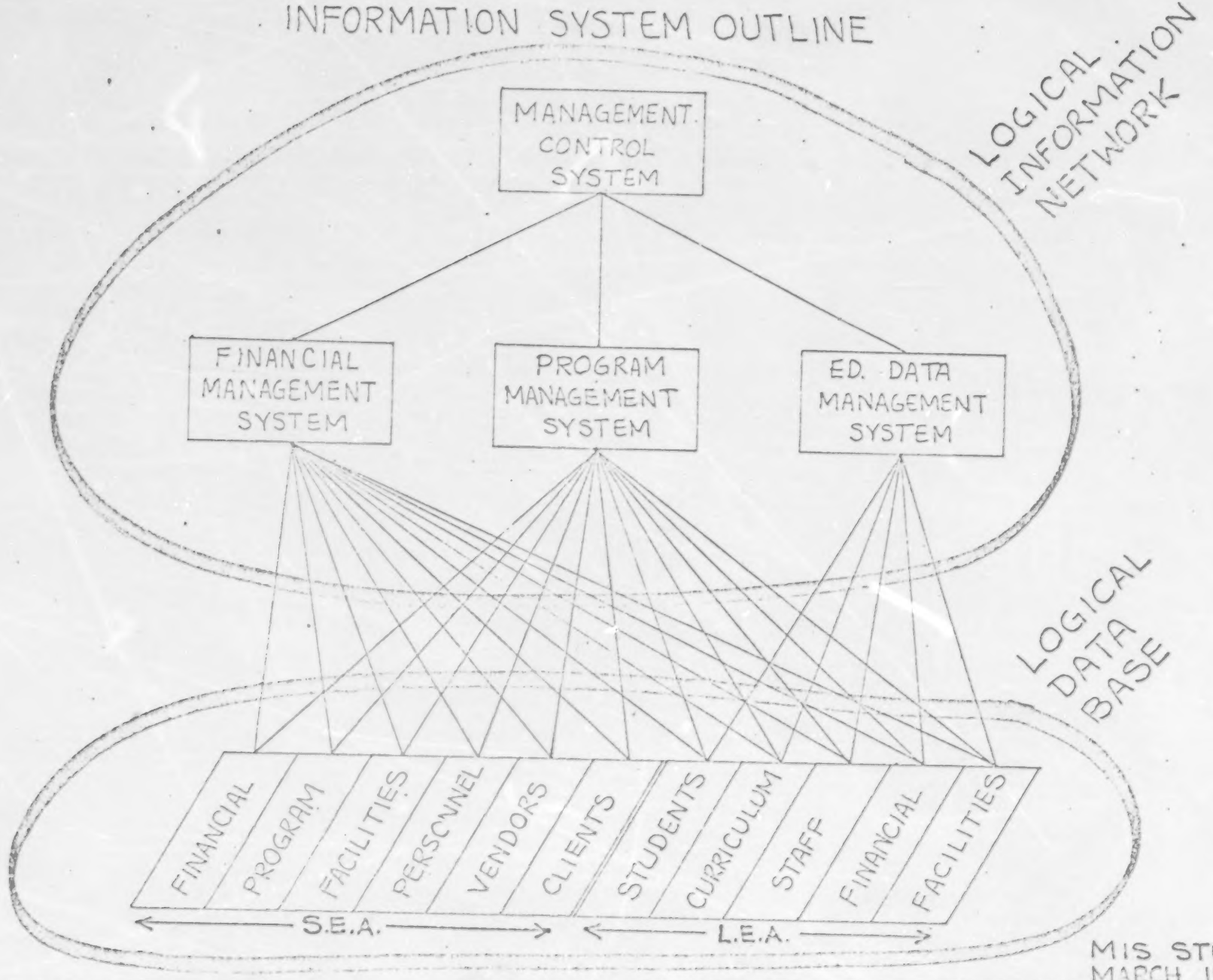
10. Establish guidelines for the collection and processing of information which is considered to be confidential.

11. Identify information from other sources which may be of use to educational decision makers.

12. Suggest priorities of programming and computer printouts, etc. to cabinet.

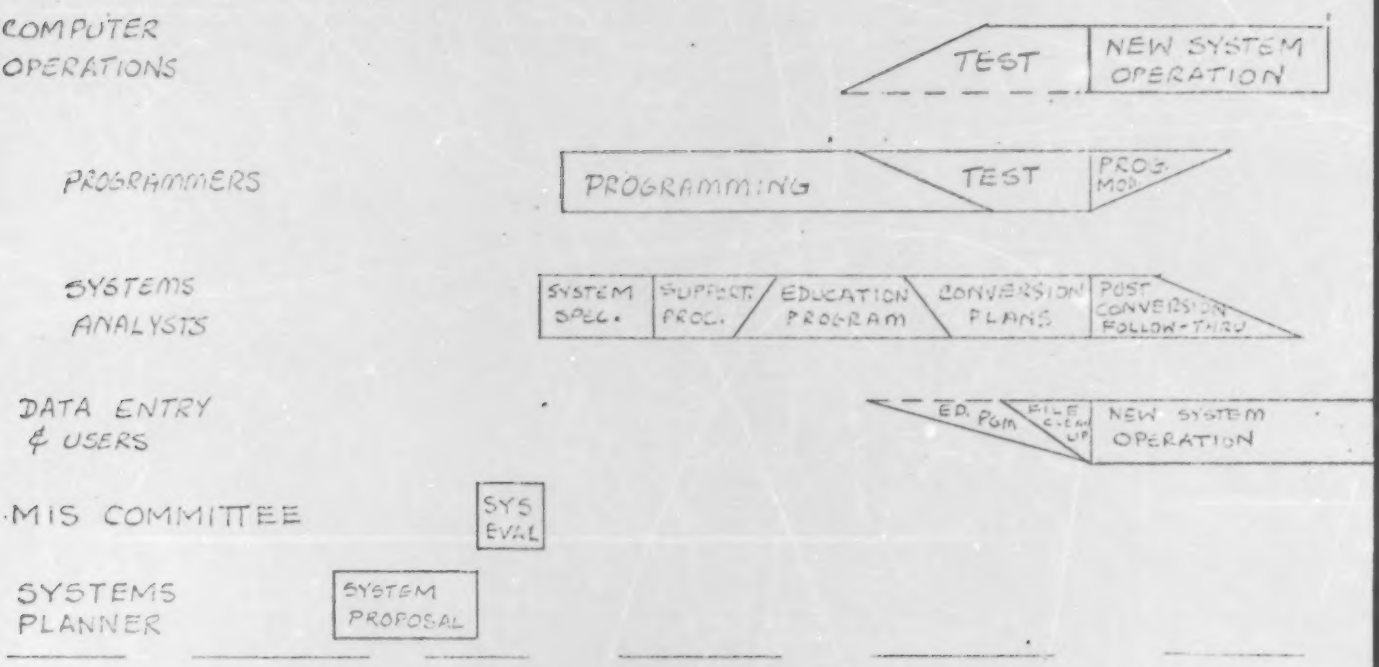
13. Any major program changes or new programs must be approved by cabinet upon recommendation of the MIS Committee.

INFORMATION SYSTEM OUTLINE



MIS STUDY
MARCH 1975

IMPLEMENTING A NEW D. P. SYSTEM



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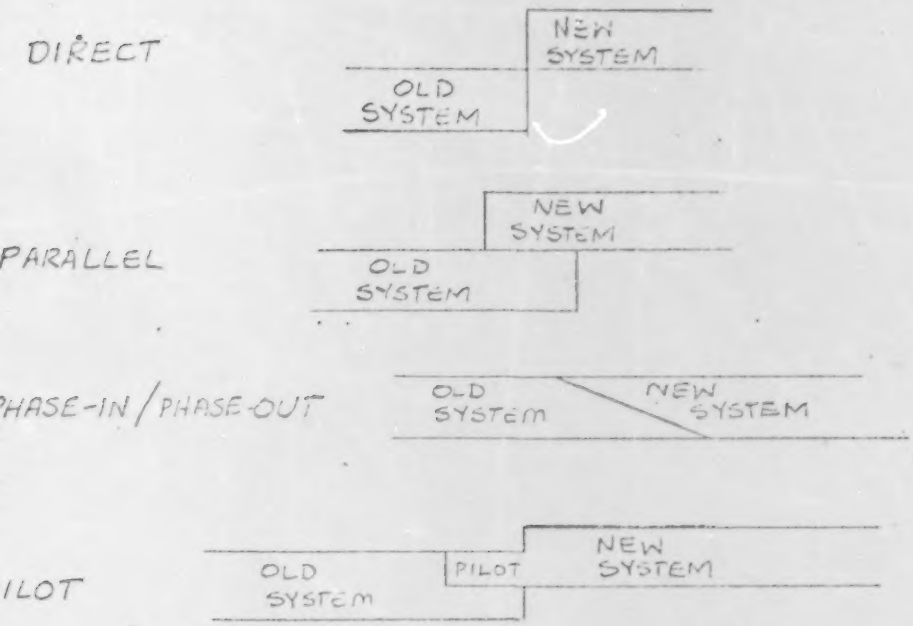

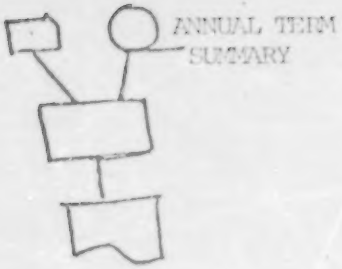
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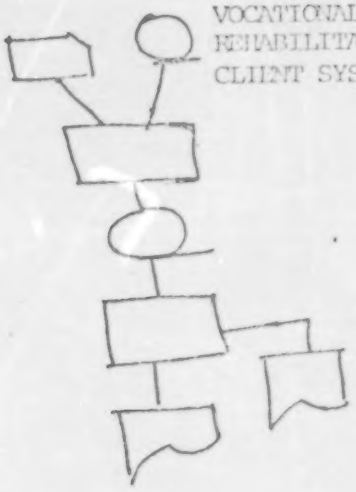
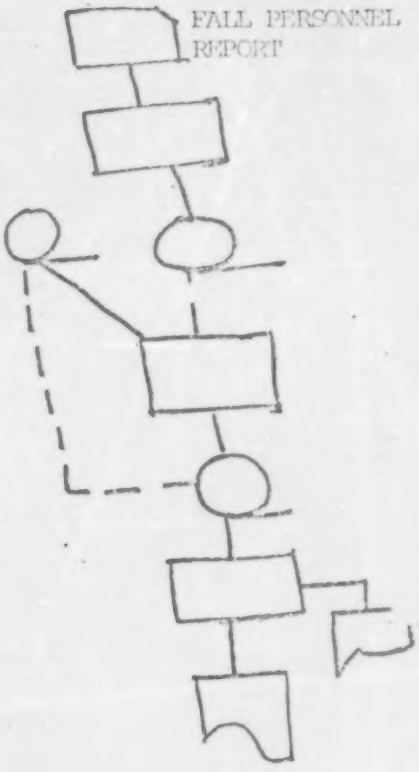
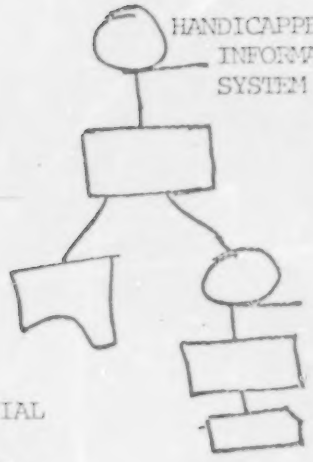
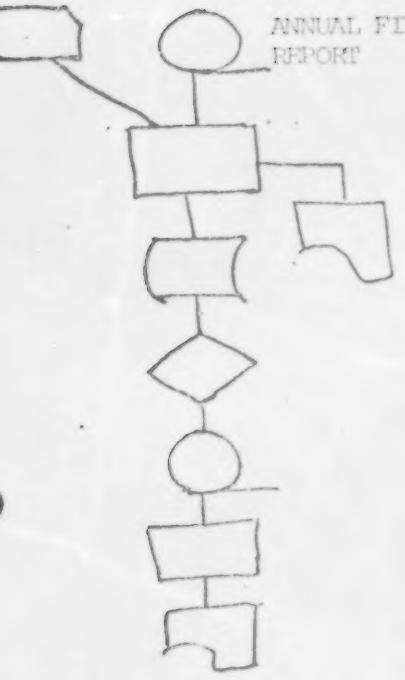
SUMMARY


VOCATIONAL
REHABILITATION
CLIENT SYSTEM


FALL PERSONNEL
REPORT

TITLE I


HANDICAPPED
INFORMATION
SYSTEM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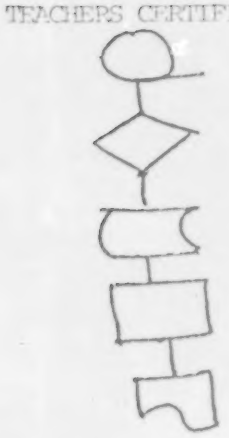
REPORT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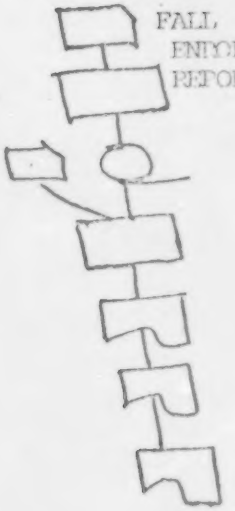
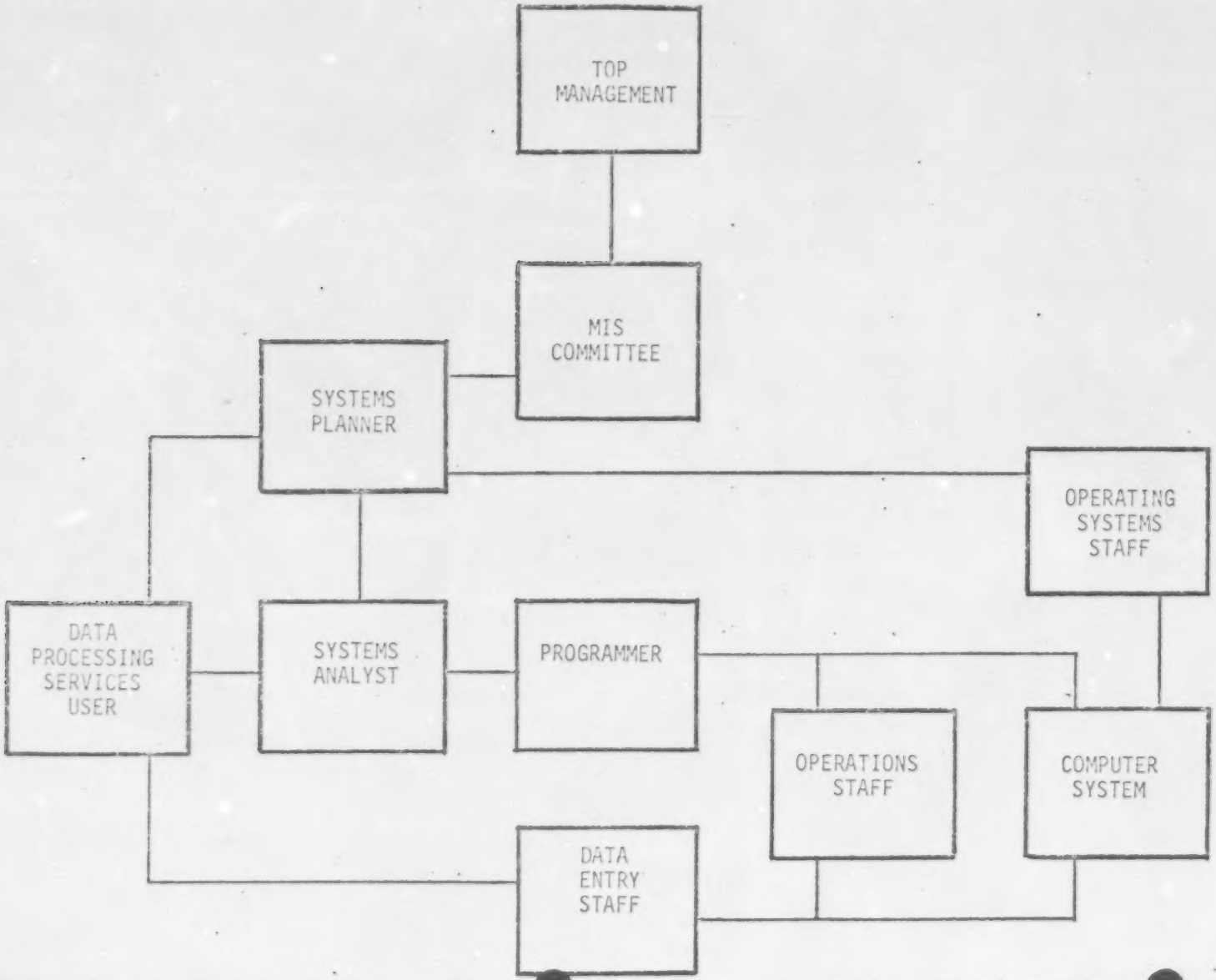
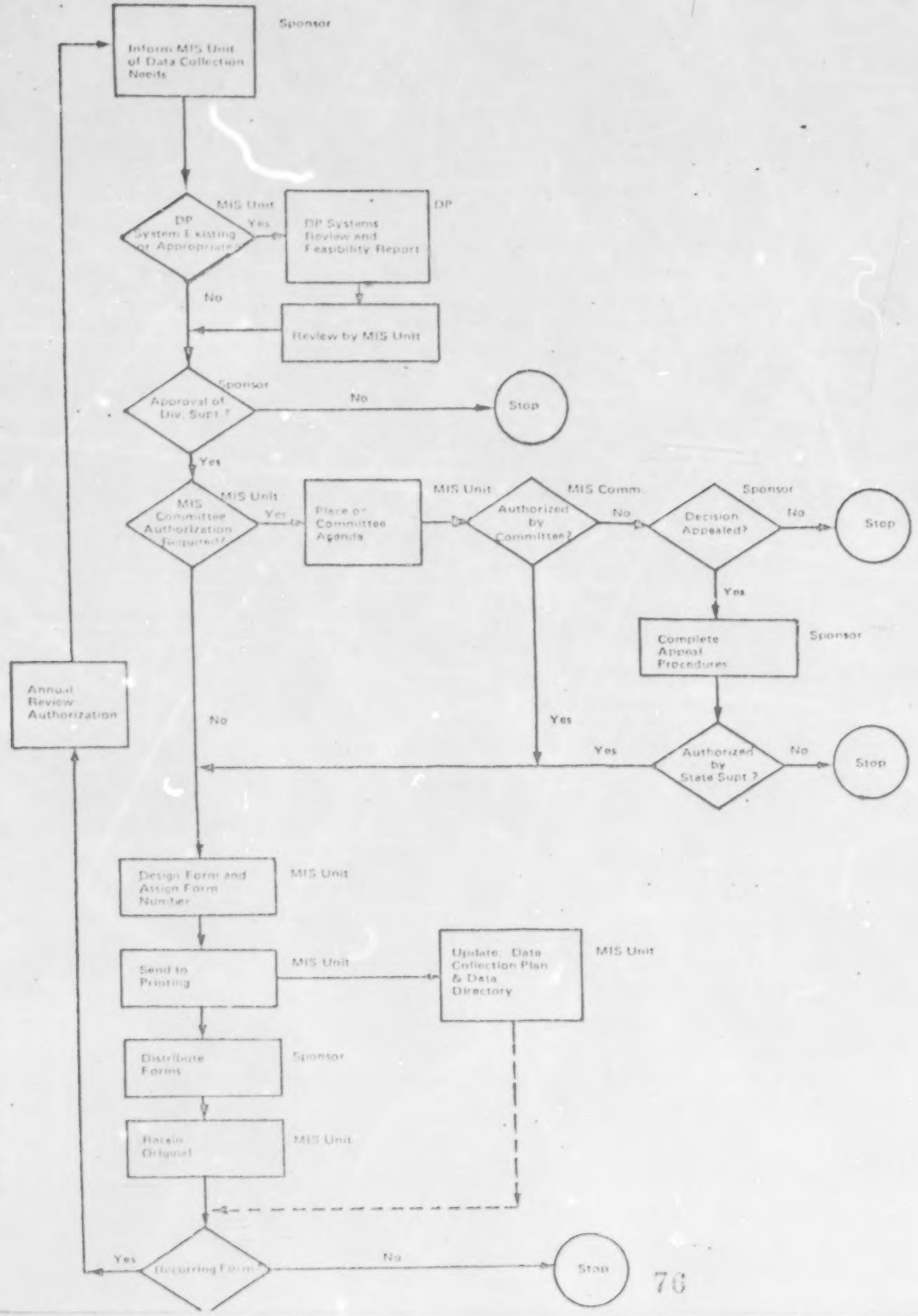

FALL
ENROLLMENT
REPORTS

STRUCTURE OF A DATA PROCESSING SHOP



EXTERNAL FORM REVIEW AND AUTHORIZATION PROCEDURE

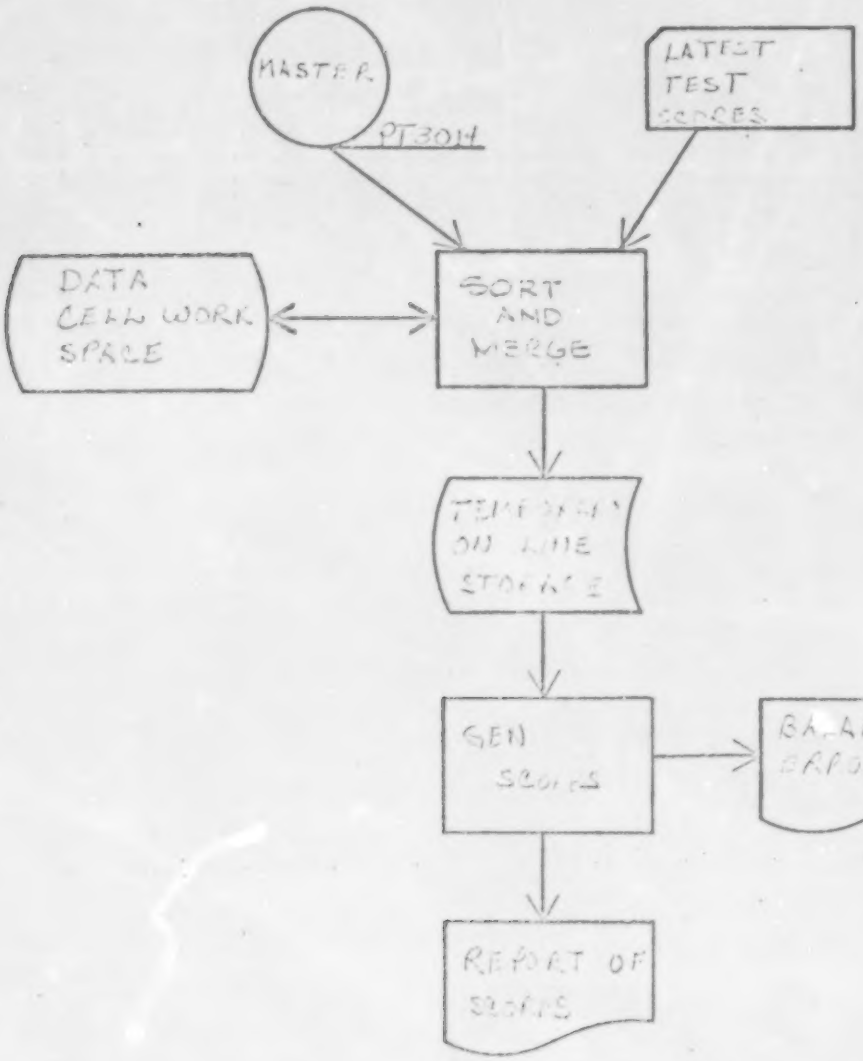


DATA PROCESSING DIVISION
NEBRASKA DEPARTMENT OF ADMINISTRATIVE SERVICES
SYSTEM FLOWCHART

DPD FORM NO. 1759

PAGE 1 OF 1

AGENCY	SYSTEM	
EDUCATION		
JOB CODE	PROCEDURE	DATE
	CWS010	2/21/75



ADD INPUT CARDS TO MASTER FILE, SORT BY DIVISION.

PRODUCE EDIT INFORMATION AND LISTING OF TEST STATISTICS.

DEPARTMENT OF ADMINISTRATIVE SERVICES

AGENCY EDUCATION SYSTEM CUSS 16 ANALYST CHRISTENSEN DATE 8/21/75 PAGE 1 OF 1

NAME	SEX	RACE	PRE TOT	PRE TEST ITEM SCORES										POST TEST TOT	POST TEST ITEM SCORES									
				1	2	3	4	5	6	7	8	9	10		1	2	3	4	5	6	7	8	9	10
9 9 9 9 9 9 9 9 9	9	9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9
1 2 3 4 5 6 7 8 9	10	11 12	13 14 15	16 17 18	19 20 21	22 23 24	25 26 27	28 29 30	31 32 33	34 35 36	37 38 39	40 41 42	43 44 45	46 47 48	49 50 51	52 53 54	55 56 57	58 59 60	61 62 63	64 65 66	67 68 69	70 71 72	73 74 75	76 77 78	79 80

DEPARTMENT OF ADMINISTRATIVE SERVICES
DATA PROCESSING DIVISION
DPD 1829

Tape/Disk Record Layout

File No. CWSP10 Page 1 of 1

RECORD NAME WORKSHOP Format No. Date 8/21/75

Agency	System	Analyst	Storage Media	Record Format	Labeled File	Record Length	Block Length
ED	CWSP10	CHRISTENSEN	☐ Tape ☒ Disk	☒ Fixed ☒ Blocked ☐ Variable ☐ Unblocked	☒ Yes ☐ No	80	480

	NAME	DIV	NUM	PRE TOT	ITEM SCORES 1	2	3	4	5	6	7	8	9	10	POST TOT	1	2	3
Data Format	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Record Position	1-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31-32	33-34	35-36	37-38	39-40	41-42	43-44	45-46	47-48	49-50	51-52	53-54	55-56	57-58	59-60

	ITEM SCORES 4	5	6	7	8	9	10
Data Format	A	A	A	A	A	A	A
Record Position	61-62	63-64	65-66	67-68	69-70	71-72	73-74	75-76	77-78	79-80

	81-82	83-84	85-86	87-88	89-90	91-92	93-94	95-96	97-98	99-100	101-102	103-104	105-106	107-108	109-110	111-112	113-114	115-116	117-118	119-120
Data Format																				
Record Position																				

	121-122	123-124	125-126	127-128	129-130	131-132	133-134	135-136	137-138	139-140	141-142	143-144	145-146	147-148	149-150	151-152	153-154	155-156	157-158	159-160	161-162	163-164	165-166	167-168	169-170	171-172	173-174	175-176	177-178	179-180
Data Format																														
Record Position																														

	181-182	183-184	185-186	187-188	189-190	191-192	193-194	195-196	197-198	199-200	201-202	203-204	205-206	207-208	209-210	211-212	213-214	215-216	217-218	219-220	221-222	223-224	225-226	227-228	229-230	231-232	233-234	235-236	237-238	239-240
Data Format																														
Record Position																														

	241-242	243-244	245-246	247-248	249-250	251-252	253-254	255-256	257-258	259-260	261-262	263-264	265-266	267-268	269-270	271-272	273-274	275-276	277-278	279-280	281-282	283-284	285-286	287-288	289-290	291-292	293-294	295-296	297-298	299-300
Data Format																														
Record Position																														

	301-302	303-304	305-306	307-308	309-310	311-312	313-314	315-316	317-318	319-320	321-322	323-324	325-326	327-328	329-330	331-332	333-334	335-336	337-338	339-340	341-342	343-344	345-346	347-348	349-350	351-352	353-354	355-356	357-358	359-360
Data Format																														
Record Position																														

	361-362	363-364	365-366	367-368	369-370	371-372	373-374	375-376	377-378	379-380	381-382	383-384	385-386	387-388	389-390	391-392	393-394	395-396	397-398	399-400	401-402	403-404	405-406	407-408	409-410	411-412	413-414	415-416	417-418	419-420
Data Format																														
Record Position																														

	421-422	423-424	425-426	427-428	429-430	431-432	433-434	435-436	437-438	439-440	441-442	443-444	445-446	447-448	449-450	451-452	453-454	455-456	457-458	459-460	461-462	463-464	465-466	467-468	469-470	471-472	473-474	475-476	477-478	479-480
Data Format																														
Record Position																														

81

80

PRE-TEST EDIT XX/XX/XX

BALANCE OK XXX

NO DATA XXX

POST-TEST EDIT XX/XX/XX

PRE-POST TEST RESULTS FROM THE COMPUTER WORKSHEET

NAME	PRETEST SCORE	POSTTEST SCORE	GAIN
XXXXXXX	XX.XX	XX.XX	XX.XX

INFORMATION SYSTEM PLANNING WORKSHEET

1. List all the people or groups of people who might be interested in the information this system will contain.

2. Think about this system from the perspective of the people in number 1. List all of the questions, or types of questions, which you think they might ask.

3. How many times a year might these groups want to ask questions of this information? How quickly would answers be required? (one hours, one day, one week, etc.)

4. (Answer only if this system will require new collection of data.) List the specific sources of data such as individuals, other sections within the department, other agencies or governmental units, etc. Indicate those sources which are currently computerized.

5. Will the system handle confidential information? If so, list the rules regarding handling and distribution.

6. If the rules in number 5 will affect or inhibit the system, describe the circumstances here.

7. Estimate the people-hours required to process the system manually. List positions (clerks, secretaries, and professional staff), the number of people of each position and costs of these people (salaries and over-head)for 3-5 years.

REQ. 1/13/75

Fill out for all:

PROGRAMMING AND PROCESSING REQUESTS

REQUESTED BY: _____ DATE: _____

TITLE OF REQUEST: _____

REQUEST DESCRIPTION (attach additional pages if required):

EXISTING DATA FILES TO BE USED:

DATE JOB IS TO BE COMPLETED: _____

BUDGET CODE: _____

FUND FUNC. AG. DIV. PROB. SUB-PROG. ACT. OBJ. TRANS. OTHER

(To be filled out by Systems Analyst)

ESTIMATED RESOURCES REQUIRED

ESTIMATED BY: _____ DATE: _____

WORK TO BE DONE BY AGENCY/PERSON: _____

TIME REQUIRED _____

COSTS: personnel _____

machine _____

material _____

APPROVAL

_____ _____

Assistant Commissioner Date

Form USR-5/75 NEBRASKA STATE DEPARTMENT OF EDUCATION

DATA PROCESSING

USER SATISFACTION REPORT

(THIS FORM WILL BE USED TO EVALUATE SDE DATA PROCESSING SERVICES)

JOB INFORMATION _____

JOB NAME: _____ DATE JOB REQUESTED: _____

JOB TITLE: _____ DATE JOB FINISHED: _____

JOB ANALYST: _____ COST OF JOB:$ _____

_____

USER INFORMATION _____

REQUESTOR: _____

DATE: _____

PLEASE COMPLETE THE FOLLOWING QUESTIONS:

1. Was the job finished on or before the date on which you expected the job to be finished? YES_____ NO_____
   COMMENTS: _____
   _____
   _____

2. When your information was delivered, was it in a clear, useable format?
   GOOD_____ FAIR_____ POOR_____
   COMMENTS: _____
   _____
   _____

3. Were you given adequate assistance in defining and planning for your information needs? GOOD_____ FAIR_____ POOR_____
   COMMENTS: _____
   _____
   _____

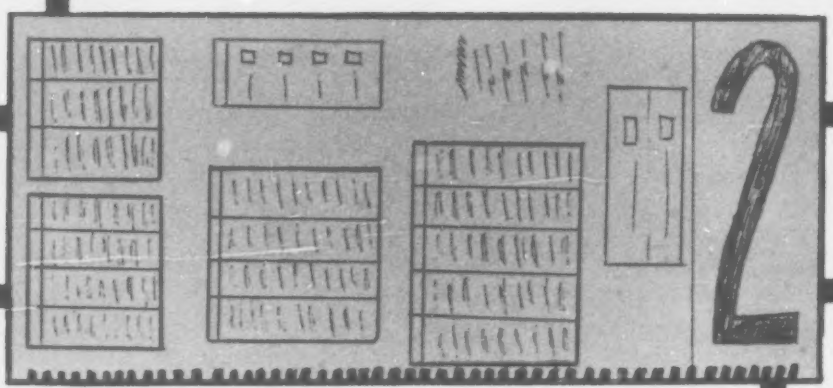
4. Were you able to contact and communicate with our Data Processing staff without difficulty? YES_____ NO_____
   COMMENTS: _____
   _____
   _____

5. Do you have any suggestions or comments that can help us to improve Data Processing services?
   _____
   _____
   _____
   _____

NDE

NEBRASKA VOCATIONAL INFORMATION SYSTEM

Instruction Manual for Teacher -- Student Data Collection



RJU

PROJECT NO. V0187VZ
GRANT NO. OEG-0-74-1673

NEBRASKA

VOCATIONAL INFORMATION

SYSTEM

(NVIS)

Research Project in Vocational Education
Conducted Under
Part C of Public Law 90-576

The project herein was performed pursuant to a grant from the Office of Education, U.S. Department of Education, and Welfare. Contractors or grantees undertaking such projects are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not therefore, necessarily represent official Office of Education position or policy.

NEBRASKA DEPARTMENT OF EDUCATION

DIVISION OF VOCATIONAL EDUCATION

AND THE

NEBRASKA RESEARCH COORDINATING UNIT

FOR VOCATIONAL EDUCATION

Elton B. Mendenhall, Project Director
Box 33, Henzlik Hall, University of Nebraska
Lincoln, Nebraska 68588

1976

ACKNOWLEDGEMENTS

Appreciation is expressed to the Maryland State Department of Education and Research Coordinating Unit for allowing Nebraska to use their instruments and programs in the development of its vocational information system. Particular thanks is extended to Mr. Gary Green of the Maryland Research Coordinating Unit for his assistance and support to the implementation of vocational information management for Nebraska.

INTRODUCTION

The Nebraska Vocational Information System (NVIS) is a federally funded project designed to develop a computerized system of data gathering and retrieval for supporting the planning, management and evaluation of vocational programs in Nebraska. While serving as a general reporting system for vocational-technical student, teacher, and program data, the NVIS is designed to provide basic planning data to local and state education agencies.

The NVIS is a totally data based system which will provide for on-line capturing of data as well as on-line specialty reports generation for the data user. The project calls for the field testing of the data collection process and training of selected state and local administrators in use of the system. This will be done on a trial basis in selected Nebraska schools representing small, medium and large districts with vocational education programs. The anticipated results of this project should provide an economically feasible system which will eliminate the need to collect the names of individuals at the State level while retaining a clear audit trail.

Contained in this publication are illustrations of the data collection cards and their respective directions for use by local education agencies and technical community colleges enrolling vocational students. A sample listing of occupational programs is also provided for each type of data card.

This project has been made possible by the adoption of a data system, developed by the Maryland State Department of Education, for use in Nebraska. Computer equipment identical to the type used in Maryland is available to Nebraska schools in Education Service Unit #3

and has therefore, contributed the ability to adopt an existing system without the tremendous cost of developing a complete new system. A unique capability of this system is the ability to change information requirements while retaining the same collection procedure.

Upon the satisfactory completion of the field test, this system should provide for uniform reporting of vocational student data, that will allow service centers throughout the state to process local school information and simultaneously provide reporting data to the State Department of Education and local administrators.

Planning and developmental activities of this project are joint endeavors of the Nebraska Department of Education and the Nebraska Research Coordinating Unit for Vocational Education, Univeristy of Nebraska.

This project is part of an effort by the Nebraska Department of Education to coordinate and improve data collection for use in program planning and management. Many of the reports required of local schools by the Nebraska Department of Education are required through federal legislation. The concept of gathering information at the smallest element allows many reports requiring "state totals" to be generated without additional request to local school officials. The system would also provide local schools with information unique to their district for use in planning local program management.

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Vocational-Technical College Faculty Form	18
Apprentice Student Record	20
Vocational-Technical Adult Student Form	24
Vocational-Technical Adult Teacher Form	29
Vocational-Technical Teacher Form	31

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PILOT SCHOOL PROGRAMS

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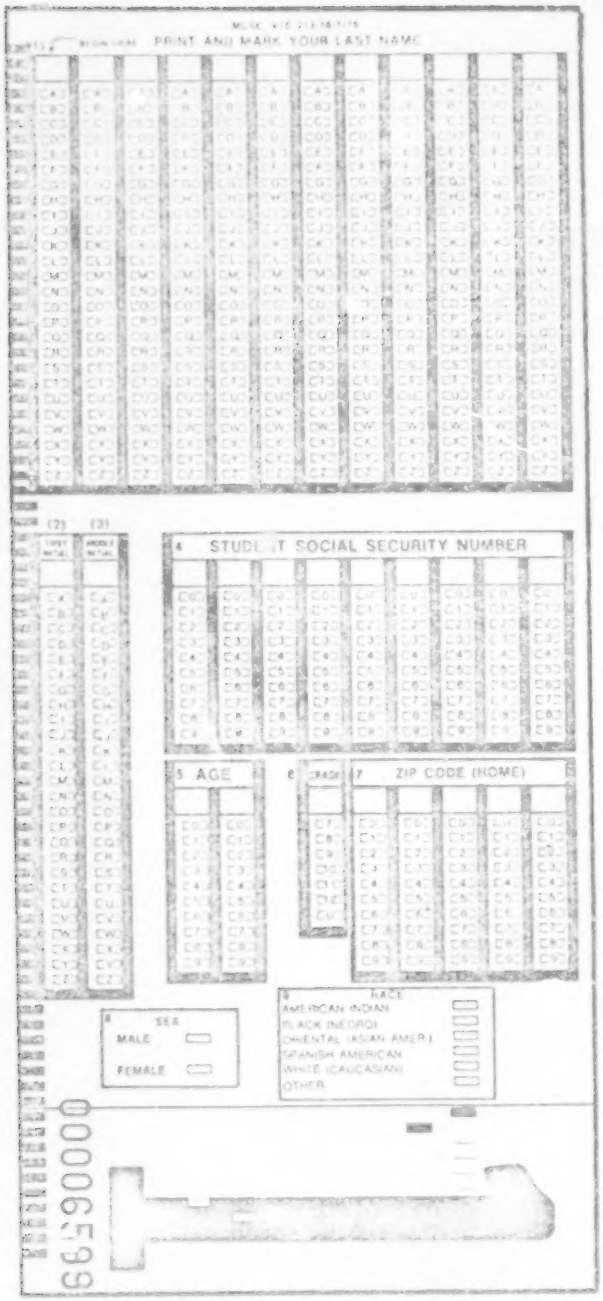
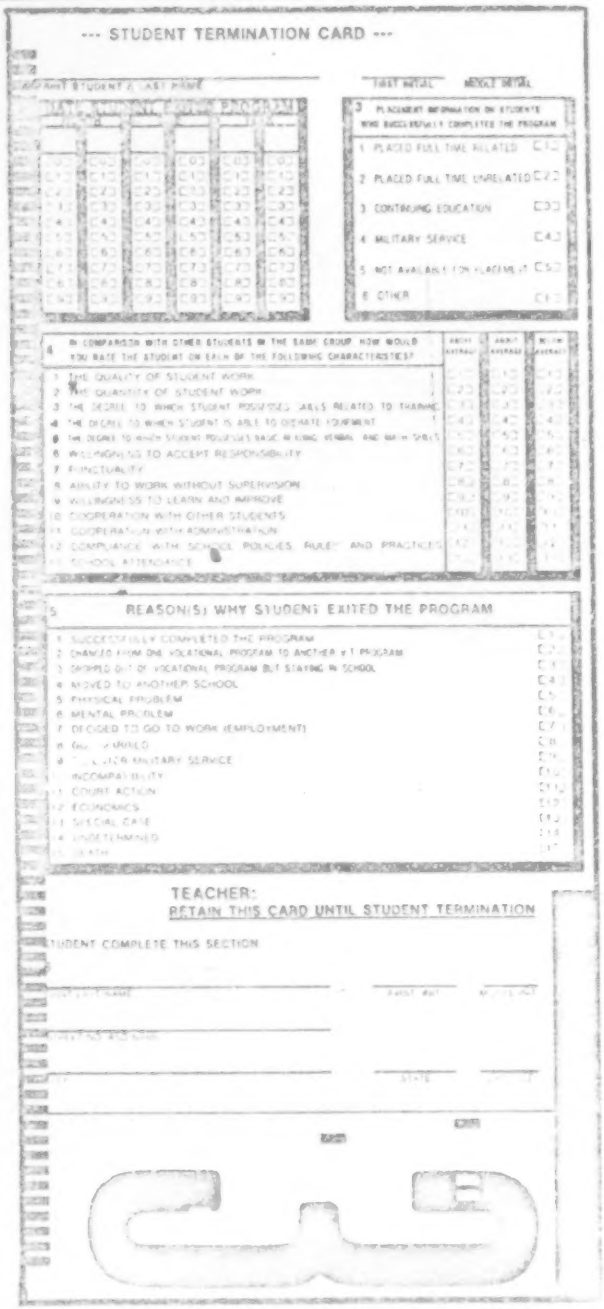
Lyons High School	12
Platte Technical Community College	17
Apprentice Programs (Sample List)	23
Columbus High School	28

VOCATIONAL-TECHNICAL STUDENT FORM

GRADES 9-12




--- STUDENT TERMINATION CARD ---
1 STUDENT'S LAST NAME
FIRST INITIAL
MIDDLE INITIAL
2 BIRTH DATE
3 PLACEMENT INFORMATION ON STUDENTS WHO SUCCESSFULLY COMPLETED THE PROGRAM
1 PLACED FULL TIME RELATED
2 PLACED FULL TIME UNRELATED
3 CONTINUING EDUCATION
4 MILITARY SERVICE
5 NOT AVAILABLE FOR PLACEMENT
6 OTHER
4 IN COMPARISON WITH OTHER STUDENTS IN THE SAME GROUP, HOW WOULD YOU RATE THE STUDENT ON EACH OF THE FOLLOWING CHARACTERISTICS?
1 THE QUALITY OF STUDENT WORK
2 THE QUANTITY OF STUDENT WORK
3 THE DEGREE TO WHICH STUDENT POSSESSES SKILLS RELATED TO TRAINING
4 THE DEGREE TO WHICH STUDENT IS ABLE TO OPERATE EQUIPMENT
5 THE DEGREE TO WHICH STUDENT POSSESSES BASIC WORKING VERBAL AND MATH SKILLS
6 WILLINGNESS TO ACCEPT RESPONSIBILITY
7 PUNCTUALITY
8 ABILITY TO WORK WITHOUT SUPERVISION
9 WILLINGNESS TO LEARN AND IMPROVE
10 COOPERATION WITH OTHER STUDENTS
11 COOPERATION WITH ADMINISTRATION
12 COMPLIANCE WITH SCHOOL POLICIES, RULES AND PRACTICES
13 SCHOOL ATTENDANCE
ABOVE AVERAGE
AVERAGE
BELOW AVERAGE
5 REASON(S) WHY STUDENT EXITED THE PROGRAM
1 SUCCESSFULLY COMPLETED THE PROGRAM
2 CHANGED FROM ONE VOCATIONAL PROGRAM TO ANOTHER V-T PROGRAM
3 DROPPED OUT OF VOCATIONAL PROGRAM BUT STAYING IN SCHOOL
4 MOVED TO ANOTHER SCHOOL
5 PHYSICAL PROBLEM
6 MENTAL PROBLEM
7 DECIDED TO GO TO WORK (EMPLOYMENT)
8 [illegible] MARRIED
9 [illegible] MILITARY SERVICE
10 INCOMPATIBILITY
11 COURT ACTION
12 ECONOMICS
13 SPECIAL CARE
14 UNDETERMINED
15 DEATH
TEACHER:
RETAIN THIS CARD UNTIL STUDENT TERMINATION
STUDENT COMPLETE THIS SECTION
FIRST NAME
FIRST INIT
MIDDLE INIT
MAILING ADDRESS
CITY
STATE
ZIP CODE

COOPERATIVE OCCUPATIONS

Agricultural Worker

01 Agri-Business Worker
02 Animal Caretaker
03 Farmer/Farm Worker
04 Farm Laborer
05 Farm Mechanic
06 Gardener, Grounds Keeper
07 Greenhouse Aide
08 Other Agricultural Worker

Business and Office Worker

10 Bookkeeper
11 Computer Operator
12 Computer Programmer
13 File Clerk
14 Keypunch Operator
15 Library Attendant
16 Receptionist
17 Secretary
18 Stenographer
19 Typist
20 Other Clerical Worker

Foods Worker

21 Baker
22 Cook
23 Fountain/Counter Worker
24 Meat Cutter
25 Waiter
26 Other Food Service Worker

Medical Worker

30 Dental Aide
31 Health Aide
32 Medical Aide
33 Nurse's A... Orderly
34 Other Me... Worker

Sales Worker

40 Cashier
41 Checker
42 Counter Clerk
43 Delivery Route Person
44 Sales Clerk
45 Other Sales Worker

Warehouse Worker

46 Shipper/Receiver
47 Stock Clerk
48 Stock Handler
49 Other Warehouse Worker

Trade and Industrial Worker

Automotive

50 Auto Body Repair Person
51 Auto Mechanic
52 Boat Mechanic
53 Garage Worker/Gas Attendant
54 Truck Mechanic
55 Other Automotive Worker

Construction

56 Brick Layer
57 Cabinet Maker
58 Carpenter
59 Cement Finisher
60 Dry Wall Installer
61 Floor Layer/Tile Setter
62 Plumber
63 Painter
64 Roofer
65 Wood Finisher
66 Other Construction Worker

Electrical

67 Electrician
68 Electrical/Electronic Assembler
69 Electronic Repair Person
70 Radio/TV Repair Person
71 Other Electrical Worker

Metal

72 Machine Tool Operator
73 Machinist
74 Sheet Metal Worker
75 Welder
76 Other Metal Worker

Other Occupations

77 Air Cond./Heating/Refrig. Worker
78 Assembler
79 Carpet Installer
80 Cosmetologist
81 Drafting, Design Worker
82 Dress Maker/Seamstress
83 Pattern, Model Maker
84 Photographic Process Worker
85 Printer
86 Shoe Repair Person
87 Tailor
88 Upholsterer
89 Other Worker
90 Other Mechanics and Repair Persons

VOCATIONAL PROGRAM(S)
12 COOP. AREA
14 MARK THE VOC. TECH. CLUB (S) YOU ARE A MEMBER OF
DECA
FBLA
FFA
FHA
VICA
15 SYSTEM SCHOOL CODE
16 TEACHER SOCIAL SECURITY NUMBER
IMPORTANT:
TO COMPLETE THIS RECORD, PLEASE FILL OUT NAME AND ADDRESS ON SPACES PROVIDED AT TOP AND BOTTOM OF CARD #1

NEBRASKA STATE DEPARTMENT OF EDUCATION
VOCATIONAL RESEARCH COORDINATING UNIT

Directions
MSDE VTE 213-18-7/75
Vocational-Technical Student Form Grades 9-12

* * * *

Your function as a teacher of secondary vocational-technical education is vital to the social and economic welfare of the people of Nebraska. It is imperative that every available financial, administrative, and organizational resource be marshalled on your behalf and applied in support of your work. In order that such resources may be properly managed from the federal, State and local levels, your cooperation in the administration of a statewide Management Information System is essential. The student and teacher record forms, to be completed under your direction, form a vital part of this system.

* * * *

GENERAL DIRECTIONS:

1. Each student enrolled in a vocational-technical occupational program will be required to complete a student record card.

2. It should be emphasized that ONLY PENCILS are to be used in completing cards. All marks should fill response blocks and erasures should be thorough.

3. Students enrolled in more than one occupational program should report all programs on ONE card.

SPECIFIC DIRECTIONS, STUDENT FORM:

1. Item 1: Write and Mark your Last Name - You must begin in the block indicated by the arrow. If your name requires more spaces than are provided, stop where the last letter ends in the space provided.

2. Item 2: Write and Mark the First Letter of your first name.

3. Item 3: Write and mark your middle initial.

4. Item 4: Write and mark your social security number, if you have one.

5. Item 5: Write and mark your age.

6. Item 6: Write and mark your grade.

7. Item 7: Write and mark your home zip code.

8. Item 8: Mark your sex.

9. Item 9: Mark your race.

10. Item 10: Primary Code - Under the primary code there are three sections to be completed: (1) Program Code, (2) Minutes per Period, (3) Periods per Week:

    (1) Program Code: Your teacher will print the two digit number of the program code on the chalk board. Write and mark these two numbers.

    (2) Minutes per Period: The average number of minutes a student spends in a period or module for the program marked under program code.

    (3) Periods per Week: Write and mark the number of periods in a week a student spends in the program. Students on alternate week schedules should average the number of periods per week. Parts of periods are counted as full periods. For students on a module schedule, one module is counted as a period. A single number (say five periods per week) would be written and marked as 05.

11. Item 11: Secondary Code - If you are enrolled in two occupational programs, place the one you feel is least significant in this area.

    (1) Program Code: Your teacher will print the two digit number of the program code on the chalk board. Write and mark these two numbers.

    (2) Minutes per Period: The average number of minutes a student spends in a period or module for the program marked under program code (secondary code).

    (3) Periods per Week: Write and mark the number of periods in a week a student spends in the program. Students on alternate week schedules should average the number of periods per week. Parts of periods are counted as full periods. For students on a module schedule, one module is counted as a period, a single number (say three periods per week) would be written and marked as 03.

12. Item 12: Mark the Specific Co-op Area - If in item 10 you marked that you are a cooperative student, we now need to know the specific area of your work. By using the cooperative codes listed on the back of card 1, select the one which BEST DESCRIBES the work you are doing. Write the two digit code and mark the block in the cooperative area.

13. Item 13: Date Student Entered the Program - The student should write and mark the month and year that he/she first entered the vocational-technical program he/she is taking.

14. Item 14: Mark each vocational-technical club you are a member of. If you are not a member of a club, make no mark in this area.

15. Item 15: Write and mark your school code - The teacher will write the six digit school number on the chalk board. Students are to copy the number and mark the appropriate spaces.

16. Item 16: Write and mark your teacher's social security number - If at least one half of your school day is spent under the instruction of one teacher, write and mark that teacher's social security number. Teacher should write his/her social security number on the chalk board. If you have more than one vocational teacher or spend less than one half of the school day under the instruction of one teacher, ignore this area.

* * * *

17. Item 17: This item is to be completed by SCHOOL PERSONNEL ONLY.

A. Item 17 refers to disadvantaged and/or handicapped students. If a student is in a regular vocational-technical program and is unable to succeed because he/she is disadvantaged and/or handicapped do the following:

1. Mark R, this means regular program.

2. Mark D if disadvantaged, H if handicapped, D and H if both disadvantaged and handicapped.

3. Mark US, which means he/she is unable to succeed.

B. If a student is already in a disadvantaged or handicapped program and is still unable to succeed, mark US.

C. If a student is in a regular program or a disadvantaged or handicapped program and is succeeding, make no marks in this area.

D. NOTE: If you mark US and D and/or H, you must have documentation on the student which fulfills one or more of the following characteristics:

Handicapped Characteristics

Blind or Visually Handicapped
Deaf or Hard of Hearing
Speech Impaired
Emotionally Disturbed
Mentally Retarded
Crippled
Health Impaired
Specific Learning Disability

Disadvantaged Characteristics

Deficient in Language Arts and/or Math Skills
Absenteeism
Truancy
Potential Dropout - As identified by Local Pupil Services criteria
Has failed 40 percent or more courses pursued in previous secondary school programs.

NOTE: STUDENTS ARE TO COMPLETE THE FOLLOWING INFORMATION ON CARD #3.

1. Item 1: Print Last Name, First Initial, and Middle Initial.

2. Item 6: Print Last Name, First Initial, Middle Initial, and Present Home Address.

STUDENTS ARE NOT TO MAKE ANY OTHER MARKS ON CARD #3.

WHAT TO DO WITH CARDS???

1. All cards are to be collected by the teacher.

2. Cards are to be separated into three stacks. Cards #1, Cards #2, and Cards #3.

3. When a teacher has collected and separated the cards for all the occupational students he/she teaches, the teacher should place his/her card on top of the students stack of Cards #1.

4. Place a rubber band around Cards #1, and a rubber band around Cards #2. These cards will be collected by your local coordinator.

5. The stack of Cards #3 are to be retained in the school. The local coordinator will establish a policy for handling these cards.

VOCATIONAL-TECHNICAL PROGRAMS
OFFERED AT YOUR SCHOOL

WHEN SELECTING THE VOCATIONAL-TECHNICAL PROGRAM YOU ARE TEACHING, WRITE THE TWO (2) DIGITS THAT APPEAR TO THE LEFT OF THE PROGRAM NAME ON THE CHALKBOARD. STUDENTS SHOULD WRITE AND MARK THAT NUMBER ON THE CARD.

ALL STUDENTS SHOULD USE THE FOLLOWING NUMBER TO IDENTIFY THEIR SCHOOL. WRITE THIS NUMBER ON THE CHALKBOARD.

LANCASTER COUNTY

SCHOOL NAME LINCOLN PUBLIC SCHOOLS

SCHOOL NUMBER IS

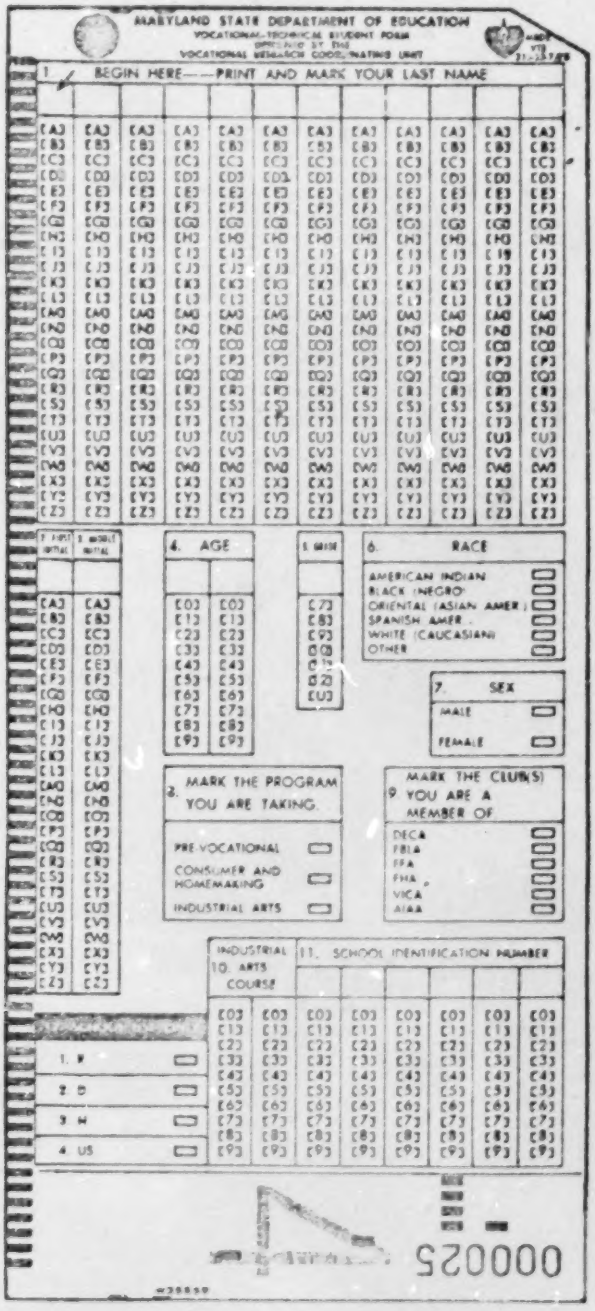
Lincoln High	550014	Southeast	550034
Northeast	550024	Lincoln East	550044

PROGRAM NUMBER TO BE MARKED ON STUDENT CARD	PROGRAM NAME	USOE IDENTIFICATION
01	AGRICULTURAL SUPPLIES/SERVICES	01.0200
02	ORNAMENTAL HORTICULTURE	01.0500
03	ADVERTISING SERVICES	04.0100
04	APPAREL & ACCESSORIES	04.0200
05	AUTOMOTIVE	04.0300
06	FINANCE & CREDIT	04.0400
07	FLORISTRY	04.0500
08	FOOD DISTRIBUTION	04.0600
09	FOOD SERVICES	04.0700
10	GENERAL MERCHANDISE	04.0800
11	HARDWARE, BUILDING MATERIALS, FARM & GARDEN, SUPPLIES & EQUIPMENT	04.0900
12	HOME FURNISHINGS	04.1000
13	HOTEL & LODGING	04.1100
14	PETROLEUM	04.1600
15	RECREATION & TOURISM	04.1800
16	ALLIED HEALTH	07.9900
17	TOTAL CONSUMER & HOMEMAKING	09.0100
18	COMPREHENSIVE HOMEMAKING	09.0101
19	CHILD DEVELOPMENT	09.0102
20	CLOTHING & TEXTILES	09.0103
21	CONSUMER EDUCATION	09.0104
22	FAMILY RELATIONS	09.0106
23	FOOD & NUTRITION	09.0107
24	HOME MANAGEMENT	09.0108
25	HOUSING & HOME FURNISHINGS	09.0109
26	OTHER	09.0199
27	CARE & GUIDANCE OF CHILDREN	09.0201
28	CLOTHING MANAGEMENT, PROD & SERVICES	09.0202
29	FOOD MANAGEMENT, PROD & SERVICES	09.0203
30	HOME FURNISHINGS, EQUIPMENT & SERVICES	09.0204
31	FILING, OFFICE MACHINES & GEN CLERICAL	14.0300
32	STENOGRAPHIC, SECRETARIAL & RELATED	14.0700
33	TYPING & RELATED OCCUPATIONS	14.0900
34	MECHANICS, AUTO	17.0302
		17.1002

SAMPLE LIST

VOCATIONAL-TECHNICAL STUDENT FORM

Consumer Homemaking, Pre-vocational, Industrial Arts



NEBRASKA STATE DEPARTMENT OF EDUCATION
VOCATIONAL RESEARCH COORDINATING UNIT

DIRECTIONS
MSDE VTE 213-23-7/75
VOCATIONAL-TECHNICAL STUDENT FORM

* * * *

Your function as a teacher of vocational-technical education is vital to the social and economic welfare of the people of Nebraska. It is imperative that every available financial, administrative, and organizational resource be marshalled on your behalf and applied in support of your work. In order that such resources may be properly managed from the federal, State, and local levels, your cooperation in administration of a statewide Management Information System is essential. The information provided by you forms a vital part of this system.

* * * *

GENERAL DIRECTIONS:

1. Each student enrolled in a PRE-VOCATIONAL, CONSUMER AND HOMEMAKING, or INDUSTRIAL ARTS course will be required to complete one of these cards.

2. It should be emphasized that ONLY A PENCIL is to be used in completing a card. All marks should fill the response blocks and erasures should be thorough.

SPECIFIC DIRECTIONS, STUDENT FORM:

1. Item 1: Write and mark your last name - You must begin in the block indicated by the arrow. If your name requires more spaces than are provided, STOP where the last letter ends in the space provided.

2. Item 2: Write and mark the first letter of your first name.

3. Item 3: Write and mark the initial of your middle name.

4. Item 4: Write and mark your age.

5. Item 5: Write and mark your grade - Mark the block corresponding to the grade you are in.

6. Item 6: Mark your race.

7. Item 7: Mark you sex.

8. Item 8: Mark the course or program you are taking - This would be PRE-VOCATIONAL, CONSUMER AND HOMEMAKING, or INDUSTRIAL ARTS.

9. Item 9: Mark the club you are a member of. If you are a member of more than one club, mark each club.

10. Item 10: Industrial Arts Course - Using the list of Industrial Arts course titles, select the course you are teaching and write the two digit number which corresponds to the course. Students should write and mark the number in the space provided.

11. Item 11: Write and mark your SCHOOL NUMBER - The teacher will write the six digit school number on the chalk board. Students are to copy the number on the card and mark the appropriate blocks.

* *

12. Item 12: This item is to be completed by SCHOOL PERSONNEL ONLY.

A. Item 12 refers to disadvantaged and/or handicapped students. If a student is in a regular vocational-technical program and is unable to succeed because he/she is disadvantaged and/or handicapped do the following:

1. Mark R, this means regular program.

2. Mark D if disadvantaged, H if handicapped, D and H if both disadvantaged and handicapped.

3. Mark US, which means he/she is unable to succeed.

B. If a student is already in a disadvantaged or handicapped program and is still unable to succeed, mark US.

C. If a student is in a regular program or a disadvantaged or handicapped program and is succeeding, make no marks in this area.

D. NOTE: If you mark US and D and/or H, you must have documentation on the student which fulfills one or more of the following characteristics.

Handicapped Characteristics

Blind or Visually Handicapped	Mentally Retarded
Deaf or Hard of Hearing	Crippled
Emotionally Disturbed	Health Impaired
Specific Learning Disability	Speech Impaired

Disadvantaged Characteristics

Deficient in Language Arts and/or Math Skills
Absenteeism
Truancy
Potential Dropout - As identified by local Public Services Criteria
Has failed 40 percent or more courses pursued in previous secondary school programs.

INDUSTRIAL ARTS COURSE TITLES

10. COMPREHENSIVE INDUSTRIAL ARTS (includes at least two of the broad technology areas of communications; Energy and Transportation, or Industry and Production)

11. COMMUNICATIONS TECHNOLOGY (media areas included are: Graphic Arts, Drafting, Photography)

12. ENERGY & TRANSPORTATION TECHNOLOGY (media areas included are: Transportation in the areas of land, sea, air, space; Automotives; Power Mechanics; Electricity/Electronics; Fluidics; Pneumatics)

13. INDUSTRY & PRODUCTION TECHNOLOGY (media areas included are: Woods, Metals, Plastics, Ceramics, Other Synthetics and Natural Materials)

14. GENERAL INDUSTRIAL ARTS (three or more unrelated media areas such as Wood, Metal, Drawing, etc.)

15. AUTOMOTIVES (Auto Mechanics, Body and Fender)

16. AERONAUTICS (Aerodynamics)

17. CERAMICS

18. INDUSTRIAL CRAFTS (General Crafts, Crafts, Arts and Crafts Lapidary, Leather)

19. DRAFTING (Drawing, Mechanical Drawing, Architecture, Cartography, Graphics)

20. ELECTRICITY/ELECTRONICS (Electricity, Electronics, House Wiring, Appliance Repair, Radio and T.V.)

21. GRAPHIC ARTS (Printing, Photography, Visual Communications)

22. METALWORKING (Machine Shop, Sheet Metal, Art Metal, Bench Metals, Hot Metals, General Metals, etc.)

23. INDUSTRIAL PLASTICS (Plastics, Fiberglass)

24. POWER MECHANICS (Power Technology, Small Engines, Mechanics)

25. WOODWORKING (Carpentry, Cabinetmaking, Pattern Making, etc.)

26. CONSTRUCTION (IACP)

27. MANUFACTURING (IACP)

VOCATIONAL-TECHNICAL PROGRAMS
OFFERED AT YOUR SCHOOL

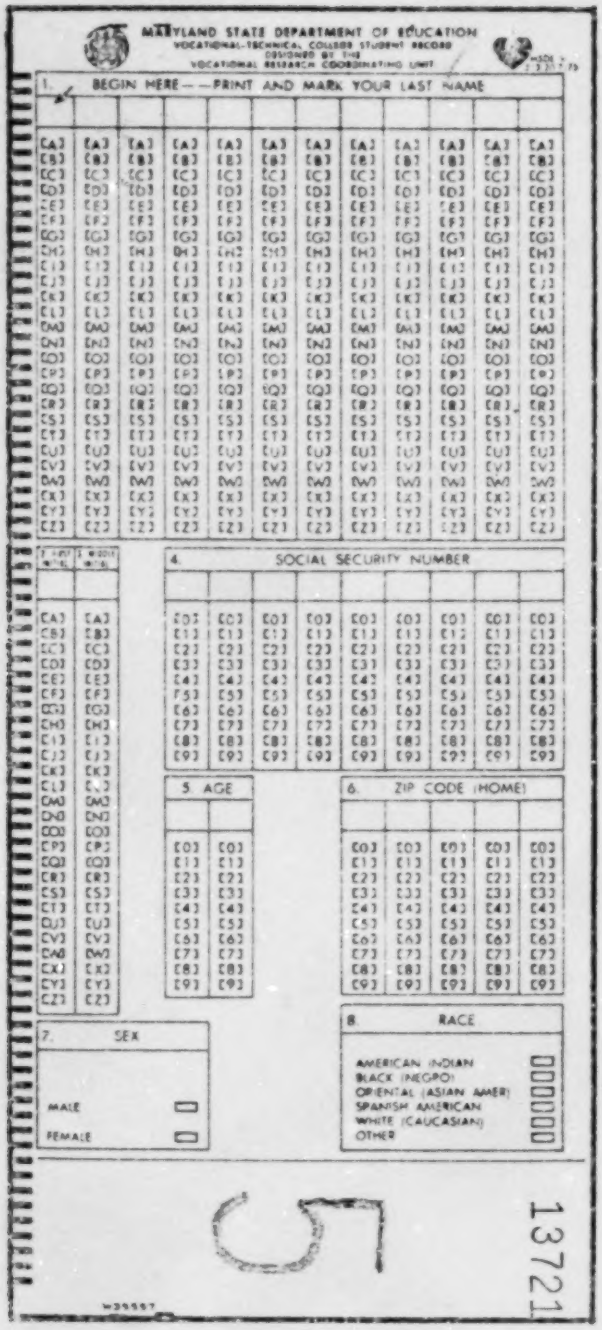
WHEN SELECTING THE VOCATIONAL-TECHNICAL PROGRAM YOU ARE TEACHING, WRITE THE TWO (2) DIGITS THAT APPEAR TO THE LEFT OF THE PROGRAM NAME ON THE CHALKBOARD. STUDENTS SHOULD WRITE AND MARK THAT NUMBER ON THE CARD.
ALL STUDENTS SHOULD USE THE FOLLOWING NUMBER TO IDENTIFY THEIR SCHOOL. WRITE THIS NUMBER ON THE CHALKBOARD.

	BURT COUNTY	SCHOOL NUMBER IS
SCHOOL NAME	LYONS HIGH SCHOOL	110013

PROGRAM NUMBER TO BE MARKED ON STUDENT CARD	PROGRAM NAME	USOE IDENTIFICATION
01	AGRICULTURAL PRODUCTION	01.0100
02	AGRICULTURAL SUPPLIES/SERVICES	01.0200
03	ADVERTISING SERVICES	04.0100
04	APPAREL AND ACCESSORIES	04.0200
05	AUTOMOTIVE	04.0300
06	FINANCE & CREDIT	04.0400
07	FLORISTRY	04.0500
08	FOOD DISTRIBUTION	04.0600
09	FOOD SERVICES	04.0700
10	GENERAL MERCHANDISE	04.0800
11	HARDWARE, BUILDING MATERIALS, FARM & GARDEN, SUPPLIES & EQUIPMENT	04.0900
12	HOME FURNISHINGS	04.1000
13	HOTEL & LODGING	04.1100
14	PETROLEUM	04.1600
15	RECREATION & TOURISM	04.1800
16	FAMILY RELATIONS	09.0106
17	FOOD & NUTRITION	09.0107
18	HOME MANAGEMENT	09.0108
19	HOUSING & HOME FURNISHINGS	09.0109
20	OTHER	09.0199
21	FILING, OFFICE MACHINES & GENERAL CLERICAL	14.0300
22	STENOGRAPHIC, SECRETARIAL & RELATED	14.0700
23	TYPING & RELATED OCCUPATIONS	14.0900

SAMPLE LIST

VOCATIONAL-TECHNICAL COLLEGE STUDENT FORM



MARYLAND STATE DEPARTMENT OF EDUCATION
VOCATIONAL-TECHNICAL COLLEGE STUDENT RECORD
DEVISED BY THE
VOCATIONAL RESEARCH COORDINATING UNIT

1. BEGIN HERE — PRINT AND MARK YOUR LAST NAME

4. SOCIAL SECURITY NUMBER

5. AGE

6. ZIP CODE (HOME)

7. SEX

MALE

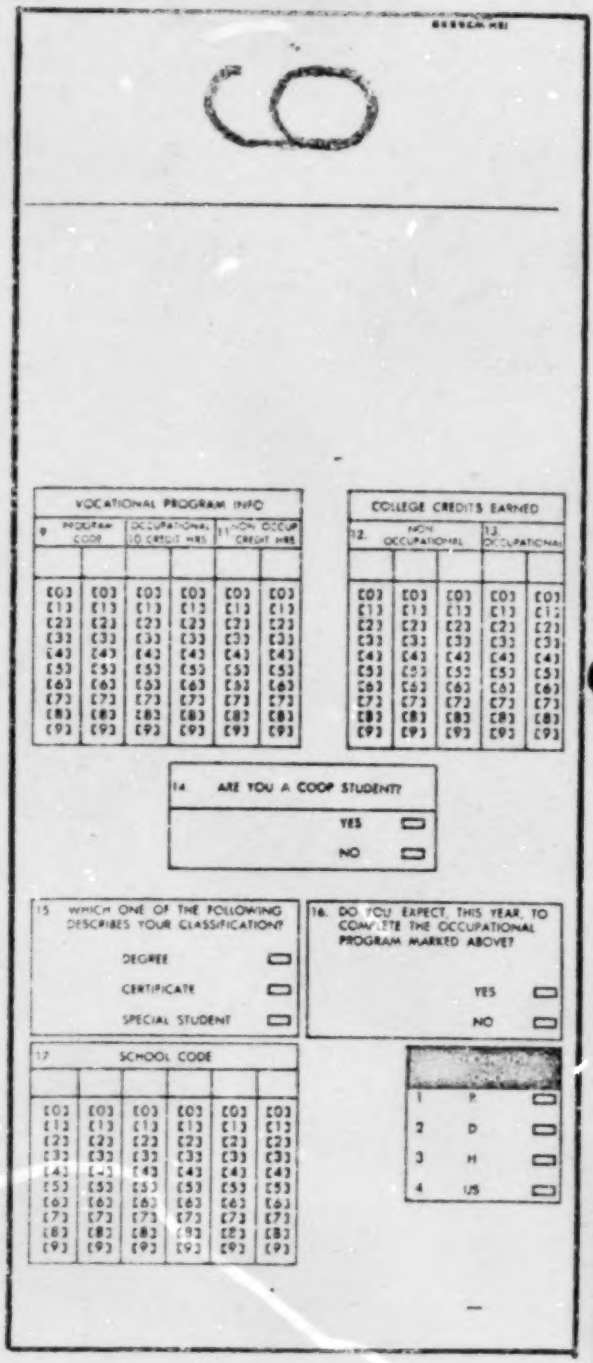
FEMALE

8. RACE

AMERICAN INDIAN
BLACK (NEGRO)
ORIENTAL (ASIAN AMER)
SPANISH AMERICAN
WHITE (CAUCASIAN)
OTHER

13721

W39597



VOCATIONAL PROGRAM INFO

9. PROGRAM CODE

10. OCCUPATIONAL CREDIT HRS

11. NON OCCUP CREDIT HRS

COLLEGE CREDITS EARNED

12. NON OCCUPATIONAL

13. OCCUPATIONAL

14. ARE YOU A COOP STUDENT?

YES

NO

15. WHICH ONE OF THE FOLLOWING DESCRIBES YOUR CLASSIFICATION?

DEGREE

CERTIFICATE

SPECIAL STUDENT

16. DO YOU EXPECT, THIS YEAR, TO COMPLETE THE OCCUPATIONAL PROGRAM MARKED ABOVE?

YES

NO

17. SCHOOL CODE

1	P
2	D
3	H
4	US

NEBRASKA STATE DEPARTMENT OF EDUCATION
VOCATIONAL RESEARCH COORDINATING UNIT

DIRECTIONS
MSDE VTE 213-20-7/75
VOCATIONAL-TECHNICAL COLLEGE STUDENT FORM

* * * *

Your function as a college faculty member in vocational-technical career preparation is vital to the social and economic welfare of the people of Nebraska. It is imperative that every available financial, administrative, and organizational resource be marshalled in your behalf and applied in support of your work. In order that such resources may be properly managed from the federal, State and local levels, your cooperation in administration of a statewide Management Information System is essential. The Student and Faculty Record forms, to be completed under your direction, form a vital part of this system.

* * * *

GENERAL DIRECTIONS:

1. Each college student enroiled in a vocational-technical program will be required to complete a student record card.

2. It should be emphasized that ONLY PENCILS are to be used in completing cards. All marks should fill response blocks and erasures should be thorough.

3. Students enrolled in more than one occupational program should report all programs on ONE card.

SPECIFIC DIRECTIONS:

1. Item 1: Write and mark your last name - You must begin in the block indicated by the arrow. If your name requires more spaces then provided, Stop where the last letter ends in the space provided.

2. Item 2 and 3: Write and mark the letters (initials) of your first and middle name.

3. Items 4, 5, 6, 7 and 8: These items are self-explanatory - Write and mark as required.

4. Vocational Program Information:

   Item 9: Program Code - The monitor or instructor has a list of vocational-technical programs offered at your college. Mark in this item the two digit code which corresponds to the occupational program you are enrolled in.

Item 10: Occupational Credit Hours - In item 9 you indicated the program you are taking. In this item, mark the number of credit hours you are taking this semester which directly relate to this program.
NOTE: If less than 10, mark zero (0) and the number. Example: 5 would appear as 05.

5. College Credits Earned:

Item 12: Non Occupational - Mark the total number of non occupational credit hours you have successfully completed to date.
Note: If less than 100, mark leading zero's (0's) and the number. Example: 35 would appear as 035.

Item 13: Occupational - Mark the total number of occupational credit hours you have successfully completed to date.
Note: If less than 10, mark zero (0) and the number.

6. Item 14: Cooperative Student - If the student is working and the job is an integral part of the program for which he/she is receiving college credit, mark yes.

7. Item 15: Your Classification
Degree: 2 year Associate degree program.
Certificate: a program established by the college, primarily occupational courses.
Special Student: enrolled in college and taking selected occupational courses.

8. Item 16: This item is self-explanatory - Mark as it applies to you.

9. Item 17: School Code - The monitor or instructor knows the six digit number which identifies your college. Write and mark the number.

10. Item 18: DO NOT MARK - Item 18 is to be completed by school personnel.

A. Item 18 refers to disadvantaged and/or handicapped students. If a student is in a regular vocational-technical program and is unable to succeed because he/she is disadvantaged and/or handicapped do the following:

1. Mark R, this means regular program.

2. Mark D if disadvantaged, H if handicapped, D and H if both disadvantaged and handicapped.

3. Mark US, which means he/she is unable to succeed.

B. If a student is already in a disadvantaged or handicapped program and is still unable to succeed, mark US.

C. If a student is in a regular program or a disadvantaged or handicapped program and is succeeding, make no marks in this area.

D. NOTE: If you mark US and D and/or H, you must have documentation on the student which fulfills one or more of the following characteristics:

Handicapped Characteristics

Blind or Visually Handicapped
Deaf or Hard of Hearing
Speech Impaired
Emotionally Disturbed
Mentally Retarded
Crippled
Health Impaired
Specific Learning Disability

Disadvantaged Characteristics

Deficient in Language Arts and/or Math Skills
Has Failed 40 Percent or More Courses Pursued in Previous Secondary Programs.

COLLEGE
VOCATIONAL-TECHNICAL PROGRAMS

WHEN SELECTING THE VOCATIONAL-TECHNICAL PROGRAM YOU ARE TEACHING, WRITE THE TWO (2) DIGITS THAT APPEAR TO THE LEFT OF THE PROGRAM NAME ON THE CHALKBOARD. STUDENTS SHOULD WRITE AND MARK THAT NUMBER ON THE CARD. NOTE: THE TWO NUMBERS ARE TO BE MARKED IN ITEM 9 ON THE CARD, UNDER PROGRAM CODE.
ALL STUDENTS SHOULD USE THE FOLLOWING NUMBER TO IDENTIFY THEIR SCHOOL. WRITE THIS NUMBER ON THE CHALKBOARD.

SCHOOL NUMBER IS

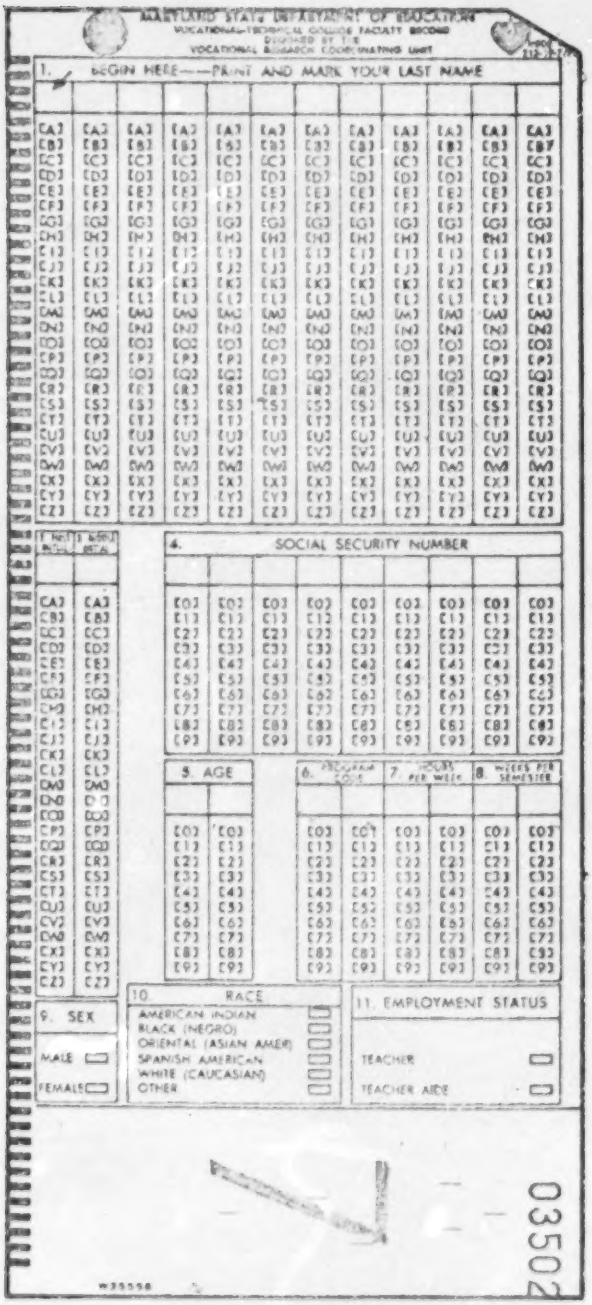
COLLEGE NAME PLATTE TECHNICAL COMMUNITY COLLEGE

944020

PROGRAM NUMBER TO BE MARKED ON STUDENT CARD	PROGRAM NAME	USOE IDENTIFICATION
01	AGRICULTURAL PRODUCTION	01.0100
02	ANIMAL SCIENCE	01.0101
03	AGRICULTURAL SUPPLIES/SERVICES	01.0200
04	AGRI-BUSINESS TECHNOLOGY	01.0200
05	FEEDS	01.0202
06	ADVERTISING SERVICES	04.0100
07	AUTOMOTIVE	04.0300
08	FOOD DISTRIBUTION	04.0600
09	GENERAL MERCHANDISE	04.0800
10	CASHIER-CHECKER TRAINING	04.0800
11	INDUSTRIAL MARKETING	04.1200
12	INSURANCE	04.1300
13	INTERNATIONAL TRADE	04.1400
14	PERSONAL SERVICES	04.1500
15	REAL ESTATE	04.1700
16	TRANSPORTATION	04.1900
17	RETAIL TRADE, OTHER	04.2000
18	PRACTICAL (VOCATIONAL) NURSING	07.0302
19	GERIATRIC NURSE AIDE	07.0303
20	FOOD SERVICE SUPERVISOR	07.0908
21	CLOTHING & TEXTILES	09.0103
22	CONSUMER EDUCATION	09.0104
23	FOODS & NUTRITION	09.0107
24	HOME MANAGEMENT	09.0108
25	HOUSING & HOME FURNISHINGS	09.0109
26	CARE & GUIDANCE OF CHILDREN	09.0201
27	CLOTHING MANAGEMENT, PROD & SERVICES	09.0202
28	FOOD MANAGEMENT PROD & SERVICES	09.0203
29	HOME FURNISHINGS, EQUIPMENT & SERVICES	09.0204
30	ACCOUNTING & COMPUTING	14.0100
31	BUSINESS DATA PROCESSING SYSTEM	14.0200
32	FILING, OFFICE MACHINES, & GENERAL OFFICE CLERICAL OCCUPATIONS	14.0300
33	FILE CLERKS	14.0302

SAMPLE LIST

VOCATIONAL-TECHNICAL COLLEGE FACULTY FORM



DIRECTIONS
MSDE VTE 213-19-7/75
VOCATIONAL-TECHNICAL COLLEGE FACULTY FORM

SPECIFIC DIRECTIONS, FACULTY FORM:

1. Item 1: Write and mark your last name - You must begin in the block indicated by the arrow. If your name requires more spaces then provided, Stop where the last letter ends in the space provided.

2. Items 2 and 3: Write and mark the letters (initials) of your first and middle name.

3. Items 4 and 5: These items are self-explanatory - Write and mark as required.

4. Item 6: Program Code - From the list of vocational-technical programs offered at your college, select the one you instruct. Write and mark the two digits which correspond to the program you instruct.

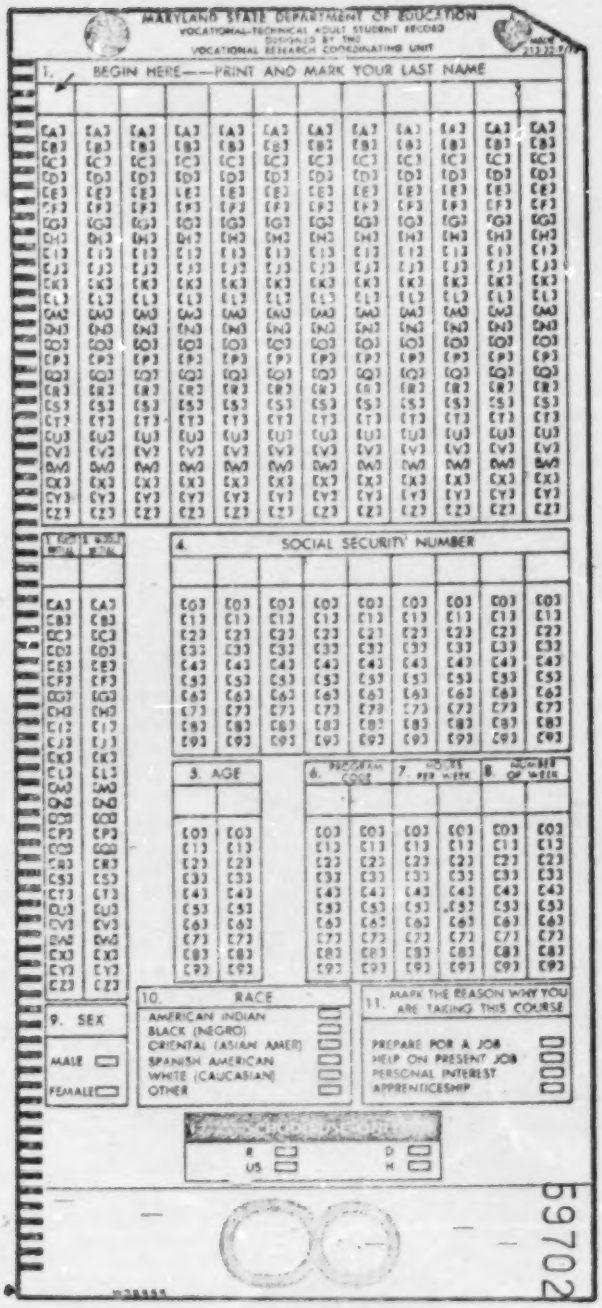
5. Item 7: Hours Per Week - For the vocational-technical program you marked in item 6, write and mark the number of hours per week you spend in instruction related to the program.

6. Item 8: Weeks per semester - For the vocational-technical program you marked in item 6, write and mark the number of weeks the program is offered this semester.

7. Items 9 and 10: These items are self-explanatory - Write and mark as required.

8. Item 11: Employment Status - If you are an instructor, mark teacher. If you are an aide, mark teacher aide.

APPRENTICE STUDENT RECORD



NEBRASKA STATE DEPARTMENT OF EDUCATION
VOCATIONAL RESEARCH COORDINATING UNIT

Directions
MSDE VTE 213-22-7/75
Apprentice Student Record

* * * *

Your function as a teacher of apprentice education is vital to the social and economic welfare of the people of Nebraska. It is imperative that every available financial, administrative, and organizational resource be marshalled on your behalf and applied in support of your work. In order that such resources may be properly managed from the federal, State, and local levels, your cooperation in the administration of a statewide Management Information System is essential. The Student and Teacher Record forms, to be completed under your direction, form a vital part of this system.

* * * *

GENERAL DIRECTIONS:

1. Each adult student enrolled in a vocational-technical program will be required to complete a student record card.

2. It should be emphasized that ONLY PENCILS are to be used in completing cards. All marks should fill the response blocks and erasures should be thorough.

3. Student is to complete one card for each vocational program he/she is taking.

SPECIFIC DIRECTIONS:

1. Item 1: Write and mark your last name - You must begin in the block indicated by the arrow. If your name requires more spaces than provided, stop where the last letter ends in the space provided.

2. Items 2 and 3: Write and mark the letters (initial) of your first and middle name.

3. Items 4 and 5: These items are self-explanatory - Write and mark as required.

4. Item 6: Program Code - Your instructor knows the two digit number which identified the program you are taking. The instructor will write the number on the chalk board. Write and mark the number on the card.

5. Item 7: Hours Per Week - Write and mark the number of hours per week you attend this class. Round off to the nearest hour. Example: 50 minutes is close to 1 hour, mark 01 in the space provided.

6. Item 8: Number of Weeks - Write and mark the number of weeks this program is offered and that you are planning to attend.

7. Items 9 and 10: These items are self-explanatory - Write and mark as required.

8. Item 11: Reason why you are taking this course - Since you are a student apprentice, mark the block to the right of Apprenticeship. Make no other marks in this area.

9. Item 12: School Use Only - Ignore this area.

* *

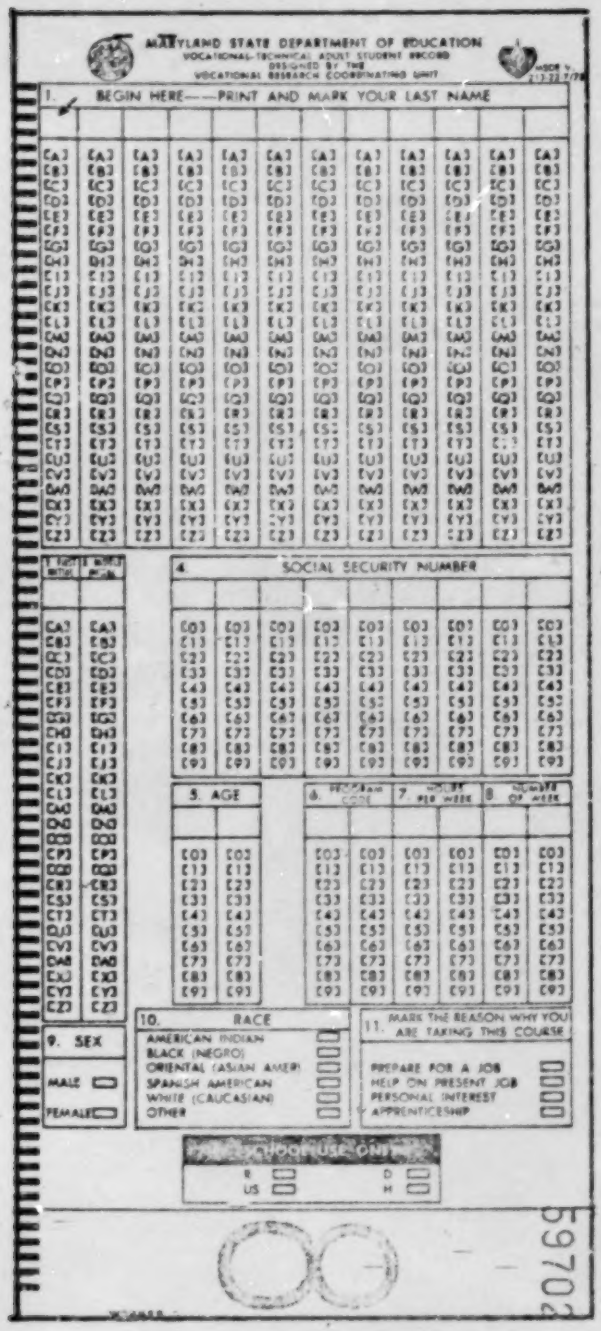
APPRENTICE
VOCATIONAL-TECHNICAL PROGRAMS

WHEN SELECTING THE VOCATIONAL-TECHNICAL PROGRAM YOU ARE TEACHING, WRITE THE TWO (2) DIGITS THAT APPEAR TO THE LEFT OF THE PROGRAM NAME ON THE CHALKBOARD. STUDENTS SHOULD WRITE AND MARK THAT NUMBER ON THE CARD. NOTE: THE TWO NUMBERS ARE TO BE MARKED IN ITEM 6 ON THE CARD, UNDER PROGRAM CODE.

SAMPLE LIST

PROGRAM NUMBER TO BE MARKED ON STUDENT CARD	PROGRAM NAME	USOE IDENTIFICATION
01	CARPENTERS APP	17.1001
02	PLUMBERS APP	17.1007
03	PLUMBERS CG APP	17.1007
04	ASBESTOS INSULATORS APP	17.1099
05	MACHINE SHOP CG APP	17.2302
06	SHEET METAL MECHANICS APP	17.2305
07	SHEET METAL MECHANICS CG APP	17.2305
08	WELDING AND CUTTING CG APP	17.2306
09	SHIPFITTER CG APP	17.2399
10	MAINTENANCE MECHANICS APP	17.9900

VOCATIONAL-TECHNICAL ADULT STUDENT FORM



MARYLAND STATE DEPARTMENT OF EDUCATION
VOCATIONAL-TECHNICAL ADULT STUDENT RECORD
DESIGNED BY THE
VOCATIONAL RESEARCH COORDINATING UNIT

1. BEGIN HERE——PRINT AND MARK YOUR LAST NAME

4. SOCIAL SECURITY NUMBER

5. AGE

9. SEX

MALE

FEMALE

10. RACE

AMERICAN INDIAN
BLACK (NEGRO)
ORIENTAL (ASIAN AMER)
SPANISH AMERICAN
WHITE (CAUCASIAN)
OTHER

11. MARK THE REASON WHY YOU ARE TAKING THIS COURSE

PREPARE FOR A JOB
HELP ON PRESENT JOB
PERSONAL INTEREST
APPRENTICESHIP

SCHOOL USE ONLY

R
US
D
H

59702

NEBRASKA STATE DEPARTMENT OF EDUCATION
VOCATIONAL RESEARCH COORDINATING UNIT

DIRECTIONS
MSDE VTE 213-22-7/75
VOCATIONAL-TECHNICAL ADULT STUDENT FORM

* * * *

Your function as a teacher of adult vocational-technical education is vital to the social and economic welfare of the people of Nebraska. It is imperative that every available financial, administrative, and organizational resource be marshalled on your behalf and applied in support of your work. In order that such resources may be properly managed from the federal, State, and local levels, your cooperation in the administration of a statewide Management Information System is essential. The Student and Teacher Record forms, to be completed under your direction, form a vital part of this system.

* * * *

GENERAL DIRECTIONS:

1. Each adult student enrolled in a vocational-technical program will be required to complete a student record card.

2. It should be emphasized that ONLY PENCILS are to be used in completing cards. All marks should fill the response blocks and erasures should be thorough.

3. Student is to complete one card for each vocational program he/she is taking.

SPECIFIC DIRECTIONS:

1. Item 1: Write and mark your last name - You must begin in the block indicated by the arrow. If your name requires more spaces than provided, stop where the last letter ends in the space provided.

2. Items 2 and 3: Write and mark the letters (initial) of your first and middle name.

3. Items 4 and 5: These items are self-explanatory - Write and mark as required.

4. Item 6: Program Code - Your instructor knows the two digit number which identifies the program you are taking. The instructor will write the number on the chalk board. Write and mark the number on the card.

5. Item 7: Hours Per Week - Write and mark the number of hours per week you attend this class. Round off to the nearest hour. Example: 50 minutes is close to 1 hour, mark 01 in the space provided.

6. Item 8: Number of Weeks - Write and mark the number of weeks this program is offered and that you are planning to attend.

7. Items 9 and 10: These items are self-explanatory - Write and mark as required.

8. Item 11: Reason Why You Are Taking This Course - Write and mark the reason which best describes why you are taking this course. Example:

   Prepare for a job: You presently are or are not working, but you are acquiring skills which will enable you to get the job you want.

   Help in present job: You presently are working in a job and you are gaining additional knowledge which will help you with that job.

   Personal interest: You presently are or are not working, however, the course you are taking will not help you in your job or to find a job but is something you wanted to study.

   Apprenticeship: No marks should appear in this block. This is a specific program and we use this card for other programs.

9. Item 12: School Use Only - Student are NOT to make any marks in this area.

   A. Item 12 refers to disadvantaged and/or handicapped students. If a student is in a regular vocational-technical program and is unable to succeed because he/she is disadvantaged and/or handicapped do the following:

      1. Mark R, this means regular program.

      2. Mark D if disadvantaged, H if handicapped, D and H if both disadvantaged and handicapped.

      3. Mark US, which means he/she is unable to succeed.

   B. If a student is already in a disadvantaged or handicapped program and is still unable to succeed, mark US.

C. If a student is in a regular program or a disadvantaged or handicapped program and is succeeding, make no marks in this area.

D. Note: If you mark US and D and/or H, you must have documentation on the student which fulfills one or more of the following characteristics:

Handicapped Characteristics

Blind or Visually Handicapped
Deaf or Hard of Hearing
Speech Impaired
Emotionally Disturbed
Mentally Retarded
Crippled
Health Impaired
Specific Learning Disability

Disadvantaged Characteristics

Deficient in Language Arts and/or Math Skills
Language Barrier

VOCATIONAL-TECHNICAL PROGRAMS
OFFERED AT YOUR SCHOOL

WHEN SELECTING THE VOCATIONAL-TECHNICAL PROGRAM YOU ARE TEACHING, WRITE THE TWO (2) DIGITS THAT APPEAR TO THE LEFT OF THE PROGRAM NAME ON THE CHALKBOARD. STUDENTS SHOULD WRITE AND MARK THAT NUMBER ON THE CARD.
ALL STUDENTS SHOULD USE THE FOLLOWING NUMBER TO IDENTIFY THEIR SCHOOL. WRITE THIS NUMBER ON THE CHALKBOARD.

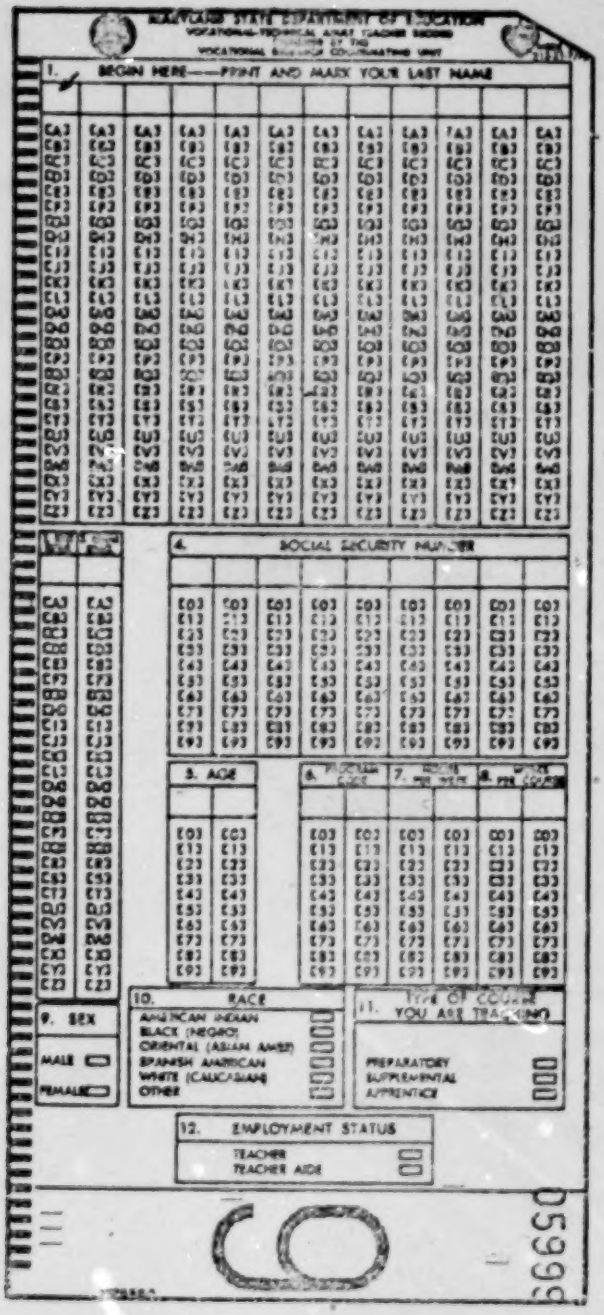
PLATTE COUNTY
SCHOOL NAME COLUMBUS HIGH SCHOOL

SCHOOL NUMBER IS
710013

PROGRAM NUMBER TO BE MARKED ON STUDENT CARD	PROGRAM NAME	USOE IDENTIFICATION
01	ADVERTISING SERVICES	04.0100
02	APPAREL & ACCESSORIES	04.0200
03	AUTOMOTIVE	04.0300
04	FINANCE & CREDIT	04.0400
05	FLORISTRY	04.0500
06	FOOD DISTRIBUTION	04.0600
07	FOOD SERVICES	04.0700
08	GENERAL MERCHANDISE	04.0800
09	HARDWARE, BUILDING MATERIALS, FARM & GARDEN, SUPPLIES & EQUIPMENT	04.0900
10	HOME FURNISHINGS	04.1000
11	HOTEL & LODGING	04.1100
12	PETROLEUM	04.1600
13	RECREATION & TOURISM	04.1800
14	COMPREHENSIVE HOMEMAKING	09.0101
15	CHILD DEVELOPMENT	09.0102
16	CLOTHING & TEXTILES	09.0103
17	CONSUMER EDUCATION	09.0104
18	FILING, OFFICE MACHINES & GENERAL CLERICAL	14.0300
19	STENOGRAPHIC, SECRETARIAL & RELATED	14.0700
20	TYPING & RELATED OCCUPATIONS	14.0900
21	MECHANICS, AUTO	17.0302
22	ELECTRICITY	17.1002
23	DRAFTING OCCUPATIONS	17.1300
24	WELDING & CUTTING	17.2306
25	OTHER METAL WORKING OCCUPATIONS	17.2399
26	WOODWORKING OCCUPATIONS	17.3600

SAMPLE LIST

VOCATIONAL-TECHNICAL ADULT TEACHER FORM



DIRECTIONS
MSDE VTE 213-21-7/75
VOCATIONAL-TECHNICAL ADULT TEACHER FORM

SPECIFIC DIRECTIONS, TEACHER FORM:

1. Item 1: Write and mark your last name - You must begin in the block indicated by the arrow. If your name requires more spaces than are provided, STOP where the last letter ends in the space provided

2. Items 2 and 3: Write and mark the letters (initials) of your first and middle name.

3. Items 4 and 5: These items are self-explanatory - Write and mark as required.

4. Item 6: Program Code - From the list of vocational-technical adult programs offered, select the one you teach. Write and mark the two digits which correspond to the program you instruct.

5. Item 7: Hours Per Week - For the vocational-technical program you marked in Item 6, write and mark the number of hours per week the program is offered.

6. Item 8: Weeks Per Course - Write and mark the number of weeks the course is offered.

7. Items 9 and 10: These items are self-explanatory - Write and mark as required.

8. Item 11: Type of course you are teaching -

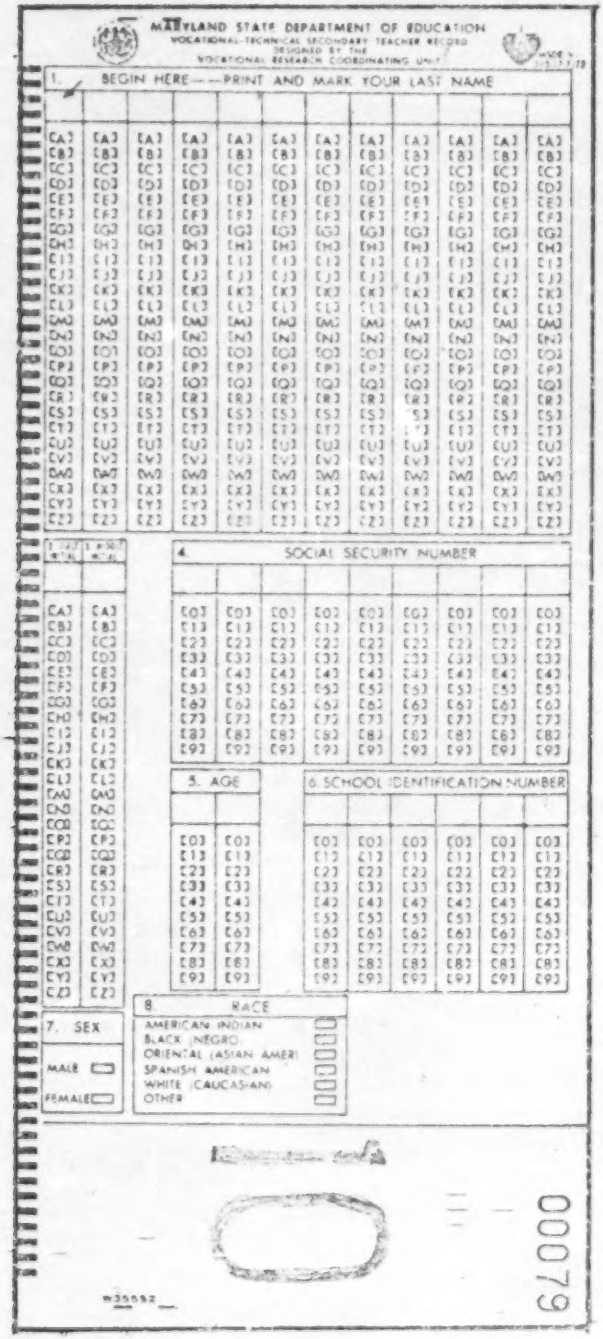
   Preparatory - Teaching entry level skills, to prepare for a job.

   Supplemental - Teaching skills to assist on the job.

   Apprenticeship - Instruct apprentice students for job preparation.

9. Item 12: Employment Status - If you are a teacher, mark teacher. If you are an aide, mark teacher aide.

VOCATIONAL-TECHNICAL TEACHER FORM



MARYLAND STATE DEPARTMENT OF EDUCATION
VOCATIONAL-TECHNICAL SECONDARY TEACHER RECORD
DESIGNED BY THE
VOCATIONAL RESEARCH COORDINATING UNIT

1. BEGIN HERE — PRINT AND MARK YOUR LAST NAME

4. SOCIAL SECURITY NUMBER

5. AGE

6. SCHOOL IDENTIFICATION NUMBER

7. SEX

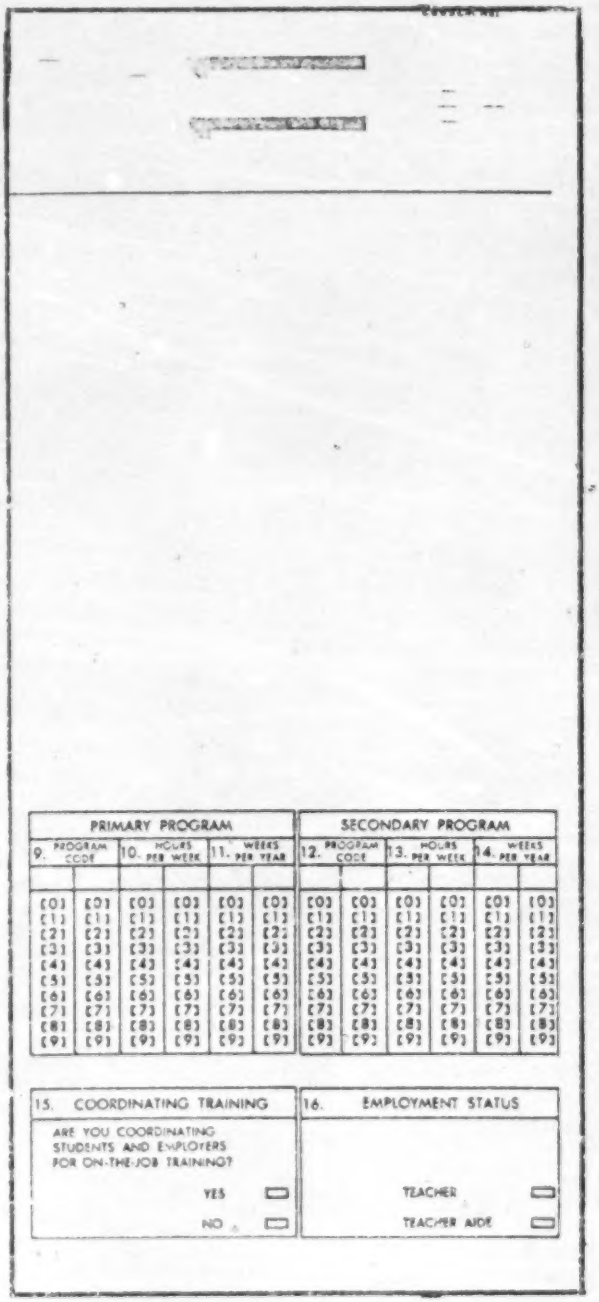
MALE ☐

FEMALE ☐

8. RACE

AMERICAN INDIAN ☐
BLACK (NEGRO) ☐
ORIENTAL (ASIAN AMER) ☐
SPANISH AMERICAN ☐
WHITE (CAUCASIAN) ☐
OTHER ☐

00079



PRIMARY PROGRAM						SECONDARY PROGRAM					
9. PROGRAM CODE		10. HOURS PER WEEK		11. WEEKS PER YEAR		12. PROGRAM CODE		13. HOURS PER WEEK		14. WEEKS PER YEAR	

15. COORDINATING TRAINING

ARE YOU COORDINATING STUDENTS AND EMPLOYERS FOR ON-THE-JOB TRAINING?

YES ☐

NO ☐

16. EMPLOYMENT STATUS

TEACHER ☐

TEACHER AIDE ☐

NEBRASKA STATE DEPARTMENT OF EDUCATION
VOCATIONAL RESEARCH COORDINATING UNIT

DIRECTIONS
MSDE VTE 213-17-7/75
VOCATIONAL-TECHNICAL TEACHER FORM

SPECIFIC DIRECTIONS, TEACHER FORM:

1. Item 1: Write and mark you last name - You must begin in the block indicated by the arrow. If your name requires more spaces than are provided, STOP where the last letter ends in the space provided.

2. Item 2: Write and mark the first letter of your first name.

3. Item 3: Write and mark your middle initial.

4. Item 4: Write and mark your social security number if you have one.

5. Item 5: Write and mark your age.

6. Item 6: School identification number - From the list provided, write and mark the six digit number which identifies your school.

7. Item 7: Write and mark your sex.

8. Item 8: Write and mark your race.

9. Primary Program - Under the primary program there are three items to be completed: (9) Program Code, (10) Hours per week, and (11) Weeks per year.

   Item 9: Program Code - From the list of vocational-technical programs offered at your school, write and mark the two digit number which identifies the primary program you are teaching.

   Item 10: Hours per week - For the program you marked in item 9, write and mark the number of hours per week you teach that program.

   Note: Indicate the average number of hours per week to the closest hour.

   Item 11: Weeks per year - For the program marked in item 9, write and mark the number of weeks per year you teach the program.

10. Secondary Program - If you teach more than one vocational-technical program, use this section to identify the additional program. Items (12) Program, (13) Hours per week, and (14) Weeks per year are to be completed.

Item 12: Program Code - From the list of vocational-technical programs offered at your school, write and mark the two digit number which identifies the secondary program you are teaching.

Item 13: Hours per week - For the program you marked in item 9, write and mark the number of hours per week you teach that program.

Note: Indicate the average number of hours per week to the closest hour.

Item 14: Weeks per year - For the program marked in item 9, write and mark the number of weeks per year you teach the program.

11. Item 15: Coordinating Training - If you are coordinating students who are working for credit, mark yes; if not, mark no.

12. Item 16: Employment Status - If you are a teacher, mark teacher. If you are an aide, mark teacher aide.